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PB-277 076

Emission Testing and Evaluation of Ford/Koppers Coke Pushing Control System. Volume II. Appendices

Ford Motor Co, Dearborn, Mich

Prepared for

Industrial Environmental Research Lab, Research Triangle Park, N C

Sep 77

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO.
EPA-600/2-77-187b

2.

3. RECIPIENT'S ACCESSION NO.
PB277076

4. TITLE AND SUBTITLE
Emission Testing and Evaluation of Ford/Koppers Coke Pushing Control System; Volume II. Appendices

5. REPORT DATE
September 1977

6. PERFORMING ORGANIZATION CODE

7. AUTHOR(S) Fred Cooper, Thomas Loch, John Mutchler, and Jan Vecchio (Clayton Environmental Consultants, Inc.)

8. PERFORMING ORGANIZATION REPORT NO.

9. PERFORMING ORGANIZATION NAME AND ADDRESS
Ford Motor Company
The American Road
Dearborn, Michigan 48121

10. PROGRAM ELEMENT NO.
1AB604

11. CONTRACT/GRANT NO.
68-02-0630

12. SPONSORING AGENCY NAME AND ADDRESS
EPA, Office of Research and Development
Industrial Environmental Research Laboratory
Research Triangle Park, NC 27711

13. TYPE OF REPORT AND PERIOD COVERED
Final; 12/73-8/77

14. SPONSORING AGENCY CODE
EPA/600/13

15. SUPPLEMENTARY NOTES IERL-RTP project officer for this report is Norman Plaks, Mail Drop 62, 919/541-2733.

16. ABSTRACT

The report documents a field testing and engineering evaluation of the performance of a retrofitted, mobile-hood, high-energy-scrubber control system, abating coke-side pushing emissions from a 58-oven coke battery. It documents the venturi-scrubber inlet and outlet emission rates, as well as emission factors for filterable and condensible particulate, sulfur dioxide, sulfur trioxide, total sulfur oxides, carbon monoxide, nitrogen oxides, benzene, benzene and homologues, total light hydrocarbons methane and homologues, and ethylene and homologues. Results indicate that the mobile hood collects particulate emissions resulting from green and clean pushes at 22% to 54% efficiencies, respectively, or from 30% to 92%, respectively, using two different estimating techniques. Scrubber performance averaged 99.3% for particulate emissions captured in the hood.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS		b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group	
Air Pollution	Iron and Steel Industry	Air Pollution Control	13B	11F
Scrubbers		Stationary Sources	07A	
Coke		Coke Pushing	21D	
Coking		Particulate	13H	
Emission				
Dust			11G	

DISTRIBUTION STATEMENT
Release to Public

19. SECURITY CLASS *(This Report)*
Unclassified

20. SECURITY CLASS *(This page)*
Unclassified

21. NO. OF PAGES
600

22. PRICE
A25 - A01

EPA Form 2220-1 (9-73)

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INFORMATION SERVICE
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EMISSION TESTING AND EVALUATION OF FORD/KOPPERS COKE PUSHING CONTROL SYSTEM; VOLUME II. APPENDICES

by

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Program Element No. 1AB604

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Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Research and Development
Washington, D.C. 20460

VOLUME II APPENDICES

A. Summary of Maintenance and Operations Department Logbooks Pertaining to the Ford/Koppers Control System

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APPENDIX A

SUMMARY OF MAINTENANCE AND OPERATIONS DEPARTMENT LOGBOOKS PERTAINING TO THE FORD/KOPPERS CONTROL SYSTEM

This appendix contains a list of nearly-verbatum extractions from the logbooks. To the extent possible, the original log entry is presented unless the original writer's sentence was clearly misleading or unintelligible; in such cases an interpretation was made based upon experience with the control system and the standard terminology presented in the design manual or the Glossary of Terms in this report. In many cases, the entries are insufficiently detailed to provide an estimate of downtime. However, the list is useful in that it provides an overview of typical system failures or inadequacies.

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MAINTENANCE DEPARTMENT LOGBOOK ENTRIES FOR SMOKELESS COKE PUSHING SYSTEM

7-1-72 The A-door machine went down at approximately 3:45 PM. Operations started using machine at 8PM and took it out of service again at 9:05.

Large blower motor bearing hot and had to be shut down.

Motor and machines still out of service at 10:45 PM.

7-2-72 A-door machine was down at start of Number 3 shift. Trouble was found in disconnect switch for Femco signal to butterfly. Was repaired and given to operations at 6:20.

7-7-72 A-door machine will be in service. But they do not want south hood (fume collection hood) in operation.

7-8-72 A-door machine down at beginning of shift ... would not travel. Found trouble in top Rayco cylinder. FM-7 connection burned off at terminal inside motor housing.

7-16-72 A-door machine out of service. Removed top louvre in smoke emission stack, it was warped from heat and was catching damper.

7-18-72 A-door machine out of service entire shift. Main fan damper limits (were) reset and chain installed. We tried to operate machine once and damper opened only two-thirds of the way but when we tried to close it the motor would not move...there is quite a bit of bind in the damper.

7-22-72	A-battery pollution fan kicked off twice at 3:45 PM and 6:10 PM. Reason unknown. All lights on panel indicated it should have run. Had to wait from 6:10 to 9:25 until power people reset the breaker. There was a time relay lock-out which we had to wait for.
7-24-72	A-battery scrubber fan ... low water pressure alarm went off a couple of times and could not find anything wrong except there is a leak at the pressure switch.
7-30-72	A-battery pollution scrubber ... water to scrubber dropped about 25 GPM at 5:45 and alarm went off, we switched from the south pump to the north pump and lost another 25 to 50 GPM. Tightened packing gland on south pump, switched back over to south pump and GPM came back up to 750 while the north pump was on the gauge and the north pump showed 0. There is about three inches of sludge on the ground between pumps indicating a possible blockage.
9-4-72	A-battery scrubber...fan motor bearings low on oil. Scrubber spray pumps oiler cups empty of oil. South pump seal leaking badly.
10-23-72	A-door machine that opens doors on suction main was stuck at No. 28 oven. Could not travel north or south. Pin on south side of hood does not line up. Machine was out of service for repair from 10 PM to 12 midnight.

10-23-72 (Continued)	Fume seal that fits against main at south channel was bent in and pin head inside was catching. Would not allow seal to retract. Burned one side of pin head off that was lapped over inner seal to get clearance to move machine to south end and straighten the steel work. Downtime 10 PM to 5 AM total.
10-25-72	A-door machine was used to push an oven north of fume main. Fume seal did not retract and machine was unable to travel. Hood struck end of main when operator moved south to put door back on. Pulled coke guide off track and did extensive damage to the hood. South upright channel will have to be replaced. The rest can probably be straightened on the job. Got machine moved to south end at 5:30 so production could start on A-battery. Total downtime 3:00 to 5:30.
11-2-72	Fan at south end of A-battery stopped with power failure. We were notified at 1:50 and had it running at 2:10 AM.
11-17-72	A-door machine ...the Rayco cylinder that controls the butterfly works intermittently. It started acting up at 2:00 and we have been working it on manual. A fan scrubber pump (north) makes noise..switched to south pump. No downtime. A-battery smoke suction fan ... installed Rayco cylinder and hooked up. Started up fan at 7:00. Still is not working and have not had time to check out. Electrical please follow up. A-battery suction butterly Rayco cylinder is completed and there is a lock on it.

11-19-72 A-battery fume emission butterfly Rayco cylinder... installed a jumper on wire FB-4 to FB-5 in control station in A-stack draft room. This jumps out the butterfly Rayco cylinder internal forward stop limit thermal protection and hand wheel crank limit. The Rayco travel is still protected by external stop limits. The reason for this was when you use the manual push-button, the external limits are not in the circuit and you could overtravel and jam the Rayco.

11-26-72 A-battery fume fan...motor reducer unit that operates louvres ahead of fan, motor winding is burned open due to oil leakage on reducer. Please follow-up on removing. A-battery recirculating water to pollution fan. One water recirculating pump is running even though fan is off. There is no heat around pumps. So we want to avoid a freeze-up. The other pump has inlet and outlet valves closed and drain valve open. In any case, for the pump that is down leave the drain valve at the bottom of pump open as other valves are not holding. There is some leakage.

11-29-72 A-battery fume fan main board reset and we started up at 1:15 AM ... was getting low scrubber water preseure alarm. Switched over to No. 2 pump. The pollution fan louvre motor brake coil burned up. The brake guts have been removed. The motor is still in operation and there doesn't seem to be any excessive drifting. Check operation during your shift by observing the

11-29-72 (Continued)	movement of the mechanical mechanism at the external limit switch area. If any trouble develops or louvres bind in extreme open or closed position shut the main fan down.
11-30-72	A-battery scrubber water pumps were getting alarm at low water pressure to scrubber. Found both pumps running. South one had the valves closed yet. Opened valves and let both pumps operate. 45 psi at pumps and 35 psi at spray headers. We replaced the gauge at the north pump and spray header.
12-1-72	Scrubber pump still getting low water flow alarm with one pump running 40 psi.
12-2-72	A-battery emission A-door machine left out all shift and did not shut off fan. Purpose to avert start-up problems in cold weather. Alternated operation of scrubber pumps.
12-5-72	A-battery scrubber-recorder in office shows no flow, pump shows pressure and sprays are working. Will need instrument repairman. A-battery fume control in operation all shift...we have some questions about louvre motor searching at closed area. Need possible cause of motor trouble.

12-10-72	A-battery scrubber both pumps were running, surge tank was empty. Checked and found 4-inch gate valve in quench station shut-off and 4-inch drain on south side of tank open. Closed drain and opened supply and put sprays in service but recorder in anunciator panel does not work.
12-12-72	A-battery fume controls, damper was not operating because butterfly Rayco limit was shorted. Jumpered out internal back limit (FB-5a and FB-4), operating OK now except Rayco blew a fuse once.
12-17-72	A-butterfly Rayco Code 31-25-363 not in yet. Left fan running but system is not in operation.
12-21-72	A-battery pollution fan shut down at 9:45 AM, louvre motor burned out. Repaired motor is expected back on 12-22-72.
12-24-72	A-battery fume control, installed louvre motor and ran same. It pulls 1/2 amp in both directions on all three legs. Number 3 shift to check over—all operation between door machine and fan.
12-26-72	Checked out butterfly for pollution fan and it is working correctly.

12-28-72 A-battery pollution fan louvre motor disconnect switch is pulled and is to be left off until Femco signal is repaired. Number 3 shift to requisition spare parts and we will follow-up in the morning.

12-29-72 A-battery pollution fan shut down at 3 PM due to bad regulating instruments for louvre motor.

1-2-73 A-battery pollution fan back in service at 1 PM.

2-11-73 A-pollution fan... tried working between calls but still no suction. Butterfly not working. Got call at end of shift that it seems to be working.

2-17-73 A-battery pollution fan went down at 10 AM (high) motor bearing temperature. Called power-house to have control relay reset. Left motor down until damper motor chain is repaired. A-battery fan repaired chain drive on louvres; located No. RC 60 chain. But louvres seem to be frozen bound up inside of duct. Made up some salamanders to get some heat in the area. This will help on fan start-up.

2-18-73 A-battery fan...removed inspection plate and busted ice away from bottom louvre to free-up. There is about two inches of ice on the bottom. One and a half-inch drain west of louvres is frozen, the valve was closed. Ice must have frozen back again because louvres will not make bottom limit.

2-19-73 A-battery fan...replaced broken section of drain line and drained. Louvres are freed and making both limits. But could not get damper-closed light in the control room. Had to stop working on it at 12:50 AM for breakdowns.

3-11-73 Big fan at south end of A-battery kicked off at 1:10 PM Circulating water pump blew a fuse shutting down big fan motor. Called power-house to reset fan motor. They said the three-hour timer had started and that it would be 4 PM before it could be reset.

3-19-73 A-battery fume fan shut down. Replaced fuses and put fan back on. Follow-up: check controls and see why both pumps stay on. Note both packings are leaking badly. May be why both pumps had to run to get pressure.

4-3-73 A-door machine fume pick-up (hood) was hung up on door that would not close because of bent lever. Pulled lever over with chain fall to straighten. Also straightened two more levers that were bent same area.

4-7-73 A-fume hood hung up on door that would not close because of bent lever. Straightened lever and returned to operation. Note: there are about five levers toward north end that are bent.

4-8-73 A-fume hood...straightened door levers but machine bent them again. Started to remove some shim on the east side because east track had been raised. Also fume main track is sagging near No. 25 oven.

4-19-73 Started A-fan at 7:20 PM.

4-20-73 A-battery pollution fan went down at 11:40 AM. Inboard motor bearing temperature high. Drained oil and flushed and added 3-1/2 quarts to about 3/4 level on sight gauge. Started up at 2:55.

4-21-73 A-fan motor shut down at 3:45 PM. Inboard motor bearing temperature 175°. Drained oil and refilled. Started up again at 8 PM and put fume system in operation. Bearing temperature went up to 170° and holding. Ambient air is cooler, will probably kick off in the morning when the sun comes out. Informed main board of conditions. Note: it did not make it, 1:20 PM fan shut down. By the time I got over to the room from the office the readout showed 150°F was the reading and 170°F while running.

4-22-73 Leave pollution fan down until tomorrow. Drained oil and checked oil rings.

4-24-73 Main pollution fan on at 2 PM. Main bearing temperatures at 3:15 (were) 120 to 150°. Keep check on your shifts.

A-battery fan...the oil dripped at outboard end of motor, I think is coming from inboard bearings, too much oil. Temperature holding at 145° to 150°.

A-door machine hood Rayco has a burned out coil and wire on field loss relay. Running with jumper.

4-25-73 Inboard A-pollution fan motor bearing temperature holding at 125° to 150°.

A-door machine...changed field loss relay for hood Rayco cylinder and repaired wiring around it that had burned also replaced resistor. Rayco motor is shorted and will have to be changed. It is disconnected.

4-26-73 A-door machine Rayco hooked up electrical and checked out. Put in service at 4:50 PM.

4-29-73 A-door machine hung up on the last two fume door handles at 6:50 AM. Freed up and took to the south end.

5-3-73 A-battery,..straightened arms on fume main (doors) 46,47,48,49.

5-9-73 A-door machine...relocated fume hood limit to the upper channel. As soon as the Rayco moves the slide 1-1/2 inches, the machine cannot move.

5-26-73	A-door machine coke guide became hung up on fume main door handle. It seems that fume main door actuator over-traveled on open and handles became tangled in the opening mechanism. We had to burn them off to get the fume main door actuator into the retracted position. They need to be welded back on.
5-29-73	Pollution fan south end battery went down.
6-1-73	Changed burned coil on FLR relay. A-door machine fume main damper: after completion found open shunt field circuit to Rayco motor. Did not isolate problem to motor as operations wanted to use machine. We have one out for repair now.
6-2-73	In checking A-door machine, the Rayco shunt circuit is opened.
6-4-73	5:10 AM, A-battery pollution fan went down. 5:20 AM, A-fan kicked off. Called main board. As of 10:40 had not reset. A-door machine fume hood hit bumper at north end, sheared the coupling bolts and ripped out cables and receptacles; fortunately not the two multi-cables.
6-5-73	A-pollution fan put in service at 12:30. A-battery fan started up at 7:30 PM.

6-6-73	A-battery fan...power maintenance requested shut down on motor for service; changed oil; started up at 7:30. Shut down at 8:23 with hot inboard bearing. We'll have to wait three hours to restart; power maintenance check oil looks like low level.
6-7-73	A-battery fan started at 1:20 AM; took temperature reading at 2:55,temperatures 135° to 165°.
6-8-73	12:45 PM started A-battery pollution fan. 2 PM A-battery pollution control fan stopped.
6-19-73	Finally got fan started at 11:10 PM.
6-21-73	Fume fan down from 10 AM to the end of the shift installing temperature recorder. No. 3 shift to receive coupling guard, install sun shield, and put fan back in operation. A-battery fan motor in service at 8:15 PM.
6-26-73	Air pollution fan damper: we checked and found ampere recorder in heater room at A-and B-bunker to be non-functioning. Have instrument repairman fix it. I checked with power maintenance on A-fan motor and was told by No. 4 sub-attendant that motor is out for bearing check.
6-30-73	A-battery pollution fan started at 3:45 PM.

7-5-73 Pay attention to A-battery pollution fan current draw. When it exceeds 250 amps either find the trouble or get it shut down. This motor current is to be controlled at 240 or less. When damper louvres are left open and fume main door closed water is pulled into fan and could damage the fan badly.

7-8-73 A-battery fan went down at 3:05 PM, inboard motor bearing temperature 180°. A-battery fan started up at 9:00.

7-14-73 A-battery fan shut down at 12:15 PM approximately; high inboard motor bearing temperature. Started back up at 1:30 PM. Vibration was noted as fan current began to subside when current came all the way down to normal, fan running good.

8/2/73 A-door machine fume main hood jamming mechanically and not going in all the way. It probably happened when machine derailed.

8-27-73 A-battery stack motor kicked out at 3:40 with hot inboard bearing. Put on line again at 6:45.

8-31-73 Air pollution fan back in service at 6:30 PM at which time inboard bearing was a little low on oil. Shut fan off to allow power maintenance to put oil in and fan will not start (3-hour time tripped) fan back in service at 8:50. All systems go.

11-1-73 We checked A-door machine fume hood and found Rayco cylinder will have to be changed. Grounded field. A forward relay may have to be changed also.

11-2-73 A-door machine fume hood cylinder back in service at 1:30 PM. Changed relay and cleared ground in Rayco cylinder.

11-3-73 A-door machine...changed Rayco.

11-4-73 A-door machine fume hood seal ring is not going all the way to main. Relays drop off before it gets there. Please check.

We repaired fume hood on door machine. No downtime.

11-26-73 4:00 PM...A-battery pollution fan butterfly wouldn't operate. We checked door machine and controls at south end of A and on fume main butterfly valve motor. Worked contact and it started working. OK at 4:00. Stopped working again at 5:30. Didn't locate problem. Locked butterfly partially open and put back in service.

12-2-73 Kinpactor tank was overflowing. The valve far south that is supposed to be open five turns was closed. Opened valve but this was late in the shift. Should have helped, please check.

12-14-73	Replaced fuse on No. 1 Kinpactor pump.
12-22-73	A-battery pollution fan main dampers were not giving suction. Check system. Transmitters and receivers were OK. Believe problem to be in the instrument panel at A-and B-heater room. We would get a 200-amp reading only occasionally when relay in instrument panel had been chattering. We would get a full 240-amp reading when we operated the dampers manually. A-battery pollution fan was accidentally tripped off as electricians were locating control switches in A-stack draft room for heating cables in that area. The pressure switch for main fan, water-cooled bearings is frozen upright at the pressure switch. Put fan back on line at 11:30 AM. Thawed pressure switch line.
12-23-73	We replaced one-inch water line to Kinpactor pump bearing.
1-8-74	A-battery pollution fan control from bunker instrument is out of adjustment.
1-16-74	Air pollution fan maintenance off for one and one-half shifts.
1-17-74	Air pollution fan off for repair.

1-25-74 A-door machine fume hood requires mechanical work on couplings.

3-22-74 We repaired the Kinpactor and put north pump and fan in service at 6:30. Had call at 10:00 PM that system was not working. Checked out and found cause for kicking off was high temperature on inboard bearing. Notified dispatchers and called power to have it checked. A-battery pollution fan in service at 1:15 AM, gas dispatcher notified. Motor inboard bearing is leaking oil around shaft. A-door machine and coke guide... fume hood would not work on automatic from fan when the fan was put back on at 1:15 AM. Back on automatic at 6:15.

3-27-74 A-coke guide (fume hood) straightened outside member by use of heat and cutting brace member to relieve strain, welded braces back in.

3-31-74 A-coke guide: the same 6-inch channel is bent again. Doesn't interfere with operating the fume hood although there is as much as four inches to six inches difference in alignment between the No. 1 oven and the No. 49 oven.

4-18-74 A-battery pollution fan down at 1:30 PM due to repairs being made to a broken city water line.
A-battery fan back on at 7:45 PM.

5-14-74 A-battery fan kicked off at 7PM, showed vibration. Called power and was told to try at 10:00 PM. We tried at this time, it would not reset and showed high temperature on inboard bearing.

5-15-74 Started air pollution fan, took temperature readings at 2:15, 3:30, and 5:00-- all were same.

5-18-74 A-battery air pollution fan damper...replaced brake coil and welded up cracks in metal brake disc. Back in service at 2 PM. Still need instrument repair to adjust current regulating instrument.

5-22-74 A-battery pollution fan...found everthing operating normally. A-battery pollution fan kicked off at 3:40, high inboard bearing temperature and fan motor back in service at 7:25.

5-31-74 A-battery pollution fan motor kicked off at 3:23 due to high inboard bearing temperature. Back in service at 8:00 PM. This motor has kicked off at least five times in the past two weeks for the same reason. Checked into power. Found that they had installed a new Babbitt bearing on 6-27-73. Bearing temperature has been kicking fan off at closer intervals. Sounds like it is starting to wipe out.

6-2-74 Air pollution fan kicked off at 2:55 and went back on line at 6:45 PM. High temperature on inboard bearing, oil OK.

6-3-74 Air pollution fan kicked off at 1:20 PM. Do not reset unless myself or someone else from power-house OK's it. Brewer tried air pollution fan at 5:00 PM would not go on line, power reset on line at 5:20 PM, running normal.

6- 4-74 Power house pulled inboard bearing found bottom half wiped slightly, changed bearing.

6-5-74 Power—house checked alignment, found motor was 0.012 high, 0.001 out on coupling faces. Decided to change fan bearings.

6-6-74 Started changing bearings, outboard bearing wiped. Noticed strange lines in journal areas of shaft resembling cracks or where shaft had been welded and machined.

6-7-74 (Above) stated lines in shaft were obviously shrink lines from shaft being welded. Would cause no problem.

6-8-74 Air pollution fan, completed change at south bearing.

6-9-74 Completed north bearing change.

6-10-74 Air pollution (fan) on line at 9:15 AM, recording bearing temperatures.

6-14-74 Air pollution fan kicked out at 6:38 and was reset back on line at 10:10 PM. High temperature and vibration on inboard bearing.

6-17-74 Air pollution fan kicked off at 3:10 on high inboard bearing temperature. As of 6:50 , power could not be reset, maintenance to check bearing alighment.

Power-house working on A-battery pollution fan. Is left down until No. 2 shift 6-18.

6-18-74 Checking bearing temperatures on fan.

6-19-74 Fan kicked off at 7:40 due to high temperature inboard motor bearing.

6-20-74 A-battery pollution fan...we switched over from city water to mill water due to low pressure for bearings. We repaired some loose solder joints on master module. We reset all modules to kick out at 170° bearing temperatures.

Fan bearing temperatures monitored. Notify dispatcher of a kick-off and was reset.

6-22-74 Pollution fan: completed polishing shaft. Installed bearing housings. Took indicator readings vertical and horizontal of periphery. Will align shafts.

6-24-74 We shimmed bearing pedestals. Found that the spacer support between the bearing housing and foundation support was secured only by bearing hold down bolt which was very poor since bearing was dolled to it. Fan is completed, filled with oil.

New carbon seals both sides of air pollution fan. Took apart and cleaned water seals. All set for morning start-up.

7-1-74 A-battery pollution fan kicked off at 6:15 PM. Hot inboard motor bearing temperature. Back on line 9:25. Went down again.

7-2-74 Fan kicked off at 3:15 with hot inboard motor bearing temperature; on line at 5:30 AM.

We made up and installed two-inch drain line on bearing of pollution fan. Dampers working but indicator light does not show it. Temperature on inboard bearing of motor has been holding at 170°.

7-4-74 We put pollution fan on line at 8:10.

7-6-74 Pollution fan still running!

7-7-74 Pollution fan back in service 6:50 PM, it kicked out at 1:50 PM.

7-10-74 We shut down fan at 10:30 PM.

7-11-74 I signed out 26-205 feeder fan, air pollution fan, at 4:05 PM, took inboard coupling apart, removed doors and covers, fixed fan on back of motor, and signed service back in at 7:15. Motor would not start because timer being tripped. Started at 7:56 and ran until 8:45 and signed out again. Left covers off fan and motor. Inboard bearing appears to be wiped out and fan has some buildup of debris.

7-12-74 Fan completed and coupling together; ready to try out.

7-13-74 We started up fan; made test, and closed doors.

7-14-74 Ran and checked pollution fan motor until 7:00 PM and shut down. Temperatures ranged from 135° to 175°. Note: water to Kinpactor shut off at south point station. Both pumps are shut off.

7-15-74 Removed north Kinpactor pump motor to floor and south motor installed on north pump. In service at 9:45.

7-16-74 A-battery pollution fan ran all shift.

7-17-74 Pulled coupling off old Kinpactor pump and installed on good motor. Hooked up suction and discharge lines.

7-18-74 Made three checks on temperature and pollution motor and fan.

7-21-74 A-door machine...drive wheel for hood is broken. Wheel runs on upper rail.

7-22-74 Put A-battery pollution fan motor back in service at 6:10 PM. A-door machine out of service from 8:00 AM to 10:10 AM to change fume hood travel drive wheel.

8-29-74 Fume damper handle at oven 32, A-battery needs straightening.

8-31-74 A-battery fume main door arms (on oven) numbers 39, 41, 43, 48, and 49 need to be straightened.

9-1-74 We straightened the fume main door arm at 39.

9-30-74 A-battery pollution fan is down for repair for two days.

10-18-74 Angle clips were installed...on A-battery fume main. South beam was slightly twisted at top so we had to drive wedges...gave machine to operations at 4:45 PM. A-battery emissions control fan in service at 5:00 PM. All covers were installed on Kinpactor.

11-5-74 A-door machine fume hood is not operating all the time. We found that the hood carriage doesn't move far enough to trip LSDO located on the south side of the Rayco platform. The door is opened and the hood opening is

11-5-75 (Continued) against the main but the bracket to trip the limit switch is 2-1/2 to three inches away from limit switch arm. It does make contact on the northernmost ovens.

11-7-74 A-battery fume hood started acting up so we elongated the holes for the dog for LSDO and moved it forward on the carriage. The fume (hood) works well on all of A-battery but on AX (that is, ovens 53 through 64) the hood doesn't seal around the door enough. Leaves about a 3/4-inch gap.

A-coke guide derailed at 4:50. Had back on track and in service at 5:15. Also repaired No. 8 fume door from south and adjusted Rayco limit on A-hood.

11-22-74 Wayne County to take noise level readings tonight between 9:00 and 11:00 PM. After their first readings they will contact operations to shut down main pollution fan...we tried to start fume fan at 11:00 and it didn't start at 3:30.

11-28-74 Moved Goulds pump from SS (Building) to A-battery Kinpactor.

11-29-74 Completed south Kinpactor pump installation.

12-11-74 Pollution fan was back on at 3:20 PM.

12-12-74	A-door machine indicating light does not work because wire No. FT25 is open between limit and panel...we repaired all indicator lights in the control room at south end of A-battery.
12-28-74	Shut off air pollution main fan at 11:15. Noise level too high. Plant personnel called operations; shut off until after the holidays.
1-7-75	Air pollution fan back in service at 2:00 PM.
1-9-75	A-door machine: hooked up Rayco cylinder but could not operate...also found limit switch which drops CR2 out was not opening due to the stationary contacts being badly bent...operating at 9:00 PM. A-battery pollution fan was shut down at 10:15 PM per EPA due to noise.
1-10-75	Turned A-battery fan back on.
1-14-75	The north Kinpactor pump was shut down at 5:45 due to noise. A-door machine fume hood binding mechanically.
1-16-75	A-door machine out of service at 8:00 PM to change Rayco cylinder on fume hood.
1-27-75	Fan damper motor is out of service; damper is set so that motor pulls 180-200 amps. Took damper apart...was not able to free up.

2-5-75 A-door machine and coke guide out of service at 7:30 AM to end of No. 2 shift; follow-up for No. 3 shift to patch door machine hood.

2-16-75 Kinpactor unit at A-battery over flow drain was only partially open...please follow-up, line may be plugged.

3-7-75 Mounted pollution fan damper motor, did not get it hooked up electrically.

A-door machine was not opening fume hood doors. We took it to the south end and checked it out (7:30 - 8:30)...after thorough lube job, no more trouble.

3-8-75 A-battery pollution fan and door machine worked at 1:30 PM.

3-20-75 A-door machine fume hood is down; there is a mechanical bind that doesn't allow it to go out all the way. It is missing the door by 6 to 8 inches. Rayco was pulling 30 amps so we turned it off rather than damage it.

4-2-75 There will be a power shutdown this evening...this feeds A-battery pollution fan and pumps. Shut this equipment down at 3:30.

4-3-75 Pollution fan in service.

4-20-75	A-scrubber: could not get water to stop coming out of the hole at the bottom. Had water and pumps off from 10:00 to 2:30.
5-2-75	We picked up the wheel assembly for A-door machine fume hood and put it on the south end. A-door machine would not retract; cleaned up carriage limit.
5-8-75	A-door machine: rang out wires for fume hood Rayco; hooked up.
5-9-75	Changed Rayco field loss relay at 6:00. Hood would not return due to time TR10A not working.
5-10-75	A-coke guide fume hood is not sealing. Please check and repair.
5-13-75	A-fume hood would not operate; found contact stuck closed on LSDRO not allowing CR2 to come in.
5-21-75	Kinpactor piping: we made up gaskets and tried to pack pipe joints but could not get up to proper height; will need a sky hook or a cherry picker.
5-30-75	2:30 to 4:00 A-fume hood would not return; the dampers were open and power shut off to draw 150 amps on main fan...replaced a broken wire.

6-13-75 A-fmme hood has an open (wire) between panel and Rayco cylinder. Took out of service from 4:45 to 5:00 to check out.

6-14-75 A-door machine...we still have an open in the shunt field.

A-door machine fume hood, found broken wire in a box at the Rayco. Everthing comes in but armature is shorted. Returned to service at 5:15 without hood working. Hood worked out some way and knocked off three doors on main.

A-battery pollution fan was shut down at 7:40 PM.

6-15-75 Fume collector...installed five doors that had been knocked (off) due to operator's using machine when we had pin out of Rayco unit for fume hood causing hood to move. A-door machine Rayco unit changed. Had problems locating trouble in Rayco...would go out but would not return...after extending one foot we could not extend or return. We welded clip so that it cannot move.

6-20-75 A-battery fan kicked off at 12:30 PM. High temperature at inboard fan bearing. Control timer times out at 3:30 PM.

A-door machine: millwrights located bind in roller at northeast side of fume hood, there is no grease fitting and it cannot be lubricated properly. Fume hood is going in and out manually. We did not check to see if fan damper is open or not. Follow-up.

6-21-75 A-door machine out of service to trim hoods on north and south sides. Frame broke, rewelded.

6-22-75 A-door machine: repaired ground in fume hood control and put in service at 7:15...fume hood will go out only a few inches and then will not return. Machine down entire shift as far as hood is concerned...worked on fume hood from 11:30 to 1:00 PM, could find nothing.

6-23-75 A-fume hood: Rayco and Femco circuit is OK now. We have some side pull on Rayco to hood hookup causing internal bind in cylinder.

6-24-75 Checked at beginning of shift and hood would not operate without tripping overload at approximately 20 amps. Replaced control reed contacts and greased hood slide bars. Returned to service at 2:30 PM. Fume hood stopped working during rain. Overloads not holding. Started troubleshooting after rain...and found open circuit to limits in Rayco.

6-25-75 A-door machine fume hood: returned to service at 4:30 AM installed jumper wire.

6-26-75 A-door machine fume hood: during entire shift according to amp meter...hood has not been going out for every oven since 12:30 PM. Checked out and found it was working properly. Seems to be an alignment problem.

6-27-75 Took A-door machine out of service and greased the sides,,,kept kicking out...two wheels not turning on hood carriage. Either door hinges are rusty or doors are binding inside of the hood when they are open...at end of battery it worked fine but up against the door, it stops from going in 6-8 inches, kicking overload.

6-29-75 A-door machine fume hood is binding up. Rollers won't turn and have no grease fittings to lubricate them. When doors open, they bind on the corrugated liner inside the hood.

6-30-75 A-door machine: at lunchtime checked out fume hood, oiled Rayco shaft. Started working.

7-11-75 A-fan on at 11:40 off 3:00; on 4:20, off 6:25. Each time, panel indicated motor inboard bearing. However temperature was only 125°F, when A-fan was running fume hood was not going in all the way. There is a mechnical bind because it is operating properly without opening doors.

OPERATIONS DEPARTMENT
LOGBOOK ENTRIES FOR SMOKELESS COKE PUSHING SYSTEM

3-9-75	Replaced Femco converter on A-door machine, suction fan is now working properly.
3-20-75	Fume fan damper not operating. Maintenance stated that the door machine hood does not open all the way to make the limit. No. 2 has to check out...found a side wear plate on inside fume hood bent over not allowing fume main doors to open. A-door machine out of service 8:00-8:15 removed bent plate from fume hood.
3-26-75	Shut off power to pollution fan so electrical tie-in could be made at gate.
4-18-75	Pollution system back in service 2:40 PM.
4-20-75	Pollution system out of service at 10:00 AM. Maintenance patched holes in Kinpactor. Back at 2:50 PM.
4-26-75	A-door machine out of service 9:50 to 10:20, Rayco wouldn't come out due to blown fuse.
5-1-75	A-door machine out of service from beginning of shift until end. Not to use unless absolutely necessary. Wheel on trolley machine for pollution device in very bad shape.

5-3-75	The control limit on A-door machine collector fume slides. The hood would not come back once in position.
5-8-75	Maintenance changed Rayco on A-door machine. Failed to return on No. 59AX oven. Out of service at lunch, to be completed on No. 3 shift.
	A-door machine out of service to 7:15 working on Rayco wiring.
5-9-75	Adjusted limit on A-door machine coke guide for Rayco.
5-13-75	Maintenance repaired limit on A-door machine Rayco for smokeless pushing.
5-14-75	A-door machine out at 12:00 PM until 2:40 PM replacing Rayco cylinder.
5-15-75	Notified maintenance that the smokeless pushing system is not retracting after the push on automatic; told them about it at 6:00.
5-16-75	Started bypassing the Smokeless Pushing System on A-door machine because the smoke boot wouldn't retract.. north side pumps need to be replaced. Maintenance notified at 6:30.
	A-door machine out from 7:30 to 9:00 maintenance repaired the smoke boot but it will only work on manual.

5-17-75 Had to remove A-door machine hood twice with manual button.

5-19-75 Did not use Rayco unit on A-door machine. Kinpactor out of service. Expected to be out all week.

5-30-75 Kinpactor pump kicked off twice. Changed over to south pump.

6-13-75 Maintenance worked on Smokeless Pushing System; out of service from 12:00 to 8:00. The Rayco wasn't working on auto or manual, maintenance found an open wire to Rayco.

A-door machine out of service 8:00 to 11:30 there is a temporary hook-up.

6-14-75 A-door machine out 8:00 to 2:40 Ryaco still out of service.

A-door machine back in service at 5:30 minus the Rayco unit - armature burned up and will have to be replaced. Started moving machine north to A-44 oven and hood made contact with three fume collector doors knocking them to the ground. Upon investigation, hood (was) found extended two inches farther west than normally. Pulled the hood back by hand and continued using the machine. Southwest channel on hood torn slightly- no other apparent damage. Shut down pollution fan at 7:40 PM.

6-15-75 Removed Rayco cylinder from A-door machine and replaced five doors on fume collector...in service at 2:20.

6-21-75 A-door machine out 12:00 until end of shift due to Rayco not working.

6-22-75 A-door machine, Smokeless Pushigg System Rayco out of order from 12:00. A-door machine out from 11:30 till 1:15 working on Rayco.

6-23-75 A-door machine out of service from 10:15 to 2:30. Maintenance working on fume collector Rayco.

6-24-75 A-door machine out of service from 12:00 to 2:45. Electricians working on Rayco. Back at 8:45 AM Maintenance worked on Rayco. A-door machine Rayco cylinder quit working at 5:45 PM, notified proper authorities of its not working.

6-25-75 A-door machine out of service 12:00 to 4:30, maintenance working on Rayco wiring. A-door machine out of service 8:30 to 9:00. Maintenance greased rollers on Rayco, from fume hood.

A-door machine out of service 12:00 to 12:30, electricians repaired short in limit switch on coke side that controls Rayco.

6-26-75 Greased the rollers on the Rayco unit. A-door machine out of service 9:40 to 10:15 maintenance making adjustments to overload limit for Rayco fume hood.

6-27-75 A-door machine out of service from 8:00 to 8:30 maintenance working on fume collector, Rayco, and hood. A-door machine out of service 12:40 to 1:45, working on Rayco again.

7-1-75 A-door machine out of service 11:30 to 2:00, working on Rayco cylinder.

7-3-75 Fume collector down at 4:37 PM due to substation 46A going out. Back on at 9:00 PM.

7-7-75 A-door machine out of service 11:45 to 1:00, maintenance replaced flume hood extension.

7-8-75 A-door machine out from beginning of shift through 9:15; maintenance worked on flume collector hood slide.

7-11-75 Fan motor tripped out 2:45 AM; back on for first oven after lunch at 4:10 AM but it's not working very well. The extension is going against the main also it is tripping the Rayco reset...fan motor tripped out again at 6:15.

7-20-75 Fume hood out of service 11:35 to 2:45, needed greasing. Overload kept kicking out.

7-23-75 A-door machine out of service 8:00 to 8:30;greased Rayco shaft.

APPENDIX B-1

SUMMARY OF EPA METHODS

– REFERENCE METHODS

[39 FR 20790, June 14, 1974]

METHOD 1—SAMPLE AND VELOCITY TRAVERSES FOR STATIONARY SOURCES

1. *Principle and Applicability.*

1.1 Principle. A sampling site and the number of traverse points are selected to aid in the extraction of a representative sample.

1.2 Applicability. This method should be applied only when specified by the test procedures for determining compliance with the New Source Performance Standards. Unless otherwise specified, this method is not intended to apply to gas streams other than those emitted directly to the atmosphere without further processing.

2. *Procedure.*

2.1 Selection of a sampling site and minimum number of traverse points.

2.1.1 Select a sampling site that is at least eight stack or duct diameters downstream and two diameters upstream from any flow disturbance such as a bend, expansion, contraction, or visible flame. For rectangular cross section, determine an equivalent diameter from the following equation:

$$\text{Equivalent diameter}=2\left(\frac{(\text{length})(\text{width})}{\text{length}+\text{width}}\right)$$

equation 1-1

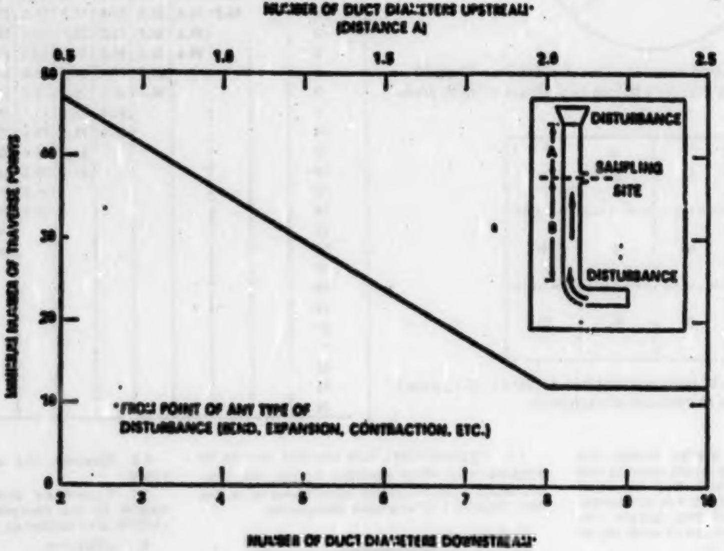

Figure 1-1. Minimum number of traverse points.

2.1.2 When the above sampling site criteria can be met, the minimum number of traverse points is twelve (12).

2.1.3 Some sampling situations render the above sampling site criteria impractical. When this is the case, choose a convenient sampling location and use Figure 1-1 to determine the minimum number of traverse points. Under no conditions should a sampling point be selected within 1 inch of the stack wall. To obtain the number of traverse points for stacks or ducts with a diameter less than 2 feet, multiply the number of points obtained from Figure 1-1 by 0.67.

2.1.4 To use Figure 1-1 first measure the distance from the chosen sampling location to the nearest upstream and downstream disturbances. Determine the corresponding number of traverse points for each distance from Figure 1-1. Select the higher of the two numbers of traverse points, or a greater value, such that for circular stacks the number is a multiple of 4, and for rectangular stacks the number follows the criteria of section 2.2.2.

2.2 Cross-sectional layout and location of traverse points.

2.2.1 For circular stacks locate the traverse points on at least two diameters according to Figure 1-2 and Table 1-1. The traverse axes shall divide the stack cross section into equal parts.

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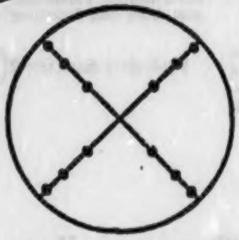

Figure 1-2. Cross section of circular stack divided into 12 equal areas, showing location of traverse points at centroid of each area.

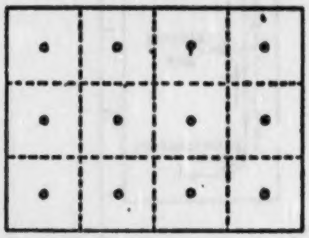

Figure 1-3. Cross section of rectangular stack divided into 12 equal areas, with traverse points at centroid of each area.

Table 1-1. Location of traverse points in circular stacks
(Percent of stack diameter from inside wall to traverse point)

Traverse point number on a diameter	Number of traverse points on a diameter											
	2	4	6	8	10	12	14	16	18	20	22	24
1	14.6	6.7	4.4	3.3	2.5	2.1	1.8	1.6	1.4	1.3	1.1	1.1
2	85.4	25.0	14.7	10.5	8.2	6.7	5.7	4.9	4.4	3.9	3.5	3.2
3		75.0	29.5	19.4	14.6	11.8	9.9	8.5	7.5	6.7	6.0	5.5
4		93.3	70.5	32.3	22.6	17.7	14.6	12.5	10.9	9.7	8.7	7.9
5			85.3	67.7	34.2	25.0	20.1	16.9	14.6	12.9	11.6	10.5
6			95.6	80.6	65.8	35.5	26.9	22.0	18.8	16.5	14.6	13.2
7				89.5	77.4	64.5	36.6	28.3	23.6	20.4	18.0	16.1
8				96.7	85.4	75.0	63.4	37.5	29.6	25.0	21.8	19.4
9					91.8	82.3	73.1	62.5	38.2	30.6	26.1	23.0
10					97.5	88.2	79.9	71.7	61.8	38.8	31.5	27.2
11						93.3	85.4	78.0	70.4	61.2	39.3	32.3
12						97.9	90.1	83.1	76.4	69.4	60.7	39.8
13							94.3	87.5	81.2	75.0	68.5	60.2
14							98.2	91.5	85.4	79.6	73.9	67.7
15								95.1	89.1	83.5	78.2	72.8
16								98.4	92.5	87.1	82.0	77.0
17									95.6	90.3	85.4	80.6
18									98.6	93.3	88.4	83.9
19										96.1	91.3	86.8
20										98.7	94.0	89.5
21											96.5	92.1
22											98.9	94.5
23												96.8
24												98.9

2.2.2 For rectangular stacks divide the cross section into as many equal rectangular areas as traverse points, such that the ratio of the length to the width of the elemental areas is between one and two. Locate the traverse points at the centroid of each equal area according to Figure 1-3.

3. *References.*

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Methods for Determination of Velocity, Volume, Dust and Mist Content of Gases, Western Precipitation Division of Joy Manufacturing Co., Los Angeles, Calif. Bulletin WP-50, 1968.

Standard Method for Sampling Stacks for Particulate Matter, In: 1971 Book of ASTM Standards, Part 23, Philadelphia, Pa. 1971, ASTM Designation D-2928-71.

METHOD 2—DETERMINATION OF STACK GAS VELOCITY AND VOLUMETRIC FLOW RATE (TYPE S PITOT TUBE)

1. *Principle and applicability.*

1.1 Principle. Stack gas velocity is determined from the gas density and from measurement of the velocity head using a Type S (Stauscheibe or reverse type) pitot tube.

1.2 Applicability. This method should be applied only when specified by the test procedures for determining compliance with the New Source Performance Standards.

2. *Apparatus.*

2.1 Pitot tube—Type S (Figure 2-1), or equivalent, with a coefficient within ±5% over the working range.

2.2 Differential pressure gauge—Inclined manometer, or equivalent, to measure velocity head to within 10% of the minimum value.

2.3 Temperature gauge—Thermocouple or equivalent attached to the pitot tube to measure stack temperature to within 1.5% of the minimum absolute stack temperature.

2.4 Pressure gauge—Mercury-filled U-tube manometer, or equivalent, to measure stack pressure to within 0.1 in. Hg.

2.5 Barometer—To measure atmospheric pressure to within 0.1 in. Hg.

2.6 Gas analyzer—To analyze gas composition for determining molecular weight.

2.7 Pitot tube—Standard type, to calibrate Type S pitot tube.

3. *Procedure.*

3.1 Set up the apparatus as shown in Figure 2-1. Make sure all connections are tight and leak free. Measure the velocity head and temperature at the traverse points specified by Method 1.

3.2 Measure the static pressure in the stack.

3.3 Determine the stack gas molecular weight by gas analysis and appropriate calculations as indicated in Method 3.

4. *Calibration.*

4.1 To calibrate the pitot tube, measure the velocity head at some point in a flowing gas stream with both a Type S pitot tube and a standard type pitot tube with known coefficient. Calibration should be done in the laboratory and the velocity of the flowing gas stream should be varied over the normal working range. It is recommended that the calibration be repeated after use at each field site.

4.2 Calculate the pitot tube coefficient using equation 2-1.

$$C_{p_{test}} = C_{p_{std}}\sqrt{\frac{\Delta p_{std}}{\Delta p_{test}}} \quad \text{equation 2-1}$$

where:

$C_{p_{test}}$ = Pitot tube coefficient of Type S pitot tube.

$C_{p_{std}}$ = Pitot tube coefficient of standard type pitot tube (if unknown, use 0.99).

Δp_{std} = Velocity head measured by standard type pitot tube.

Δp_{test} = Velocity head measured by Type S pitot tube.

4.2 Compare the coefficients of the Type S pitot tube determined first with one leg and then the other pointed downstream. Use the pitot tube only if the two coefficients differ by no more than 0.01.

5. *Calculations.*

Use equation 2-2 to calculate the stack gas velocity.

$$(V_s)_{avg.} = K_p C_p (\sqrt{\Delta p})_{avg.} \sqrt{\frac{(T_s)_{avg.}}{P_s M_s}}$$

Equation 2-2

where:

$(V_s)_{avg.}$ = Stack gas velocity, feet per second (f.p.s.).

$K_p = 85.48 \frac{\text{ft.}}{\text{sec.}}\left(\frac{\text{lb.}}{\text{lb. mole-°R}}\right)^{1/2}$ when these units are used.

C_p = Pitot tube coefficient, dimensionless.

$(T_s)_{avg.}$ = Average absolute stack gas temperature, °R.

$(\sqrt{\Delta p})_{avg.}$ = Average velocity head of stack gas, inches H_2O (see Fig. 2-2).

P_s = Absolute stack gas pressure, inches Hg.

M_s = Molecular weight of stack gas (wet basis), lb./lb.-mole.

$= M_d(1-B_{wo}) + 18B_{wo}$

M_d = Dry molecular weight of stack gas (from Method 3).

B_{wo} = Proportion by volume of water vapor in the gas stream (from Method 4).

Figure 2-2 shows a sample recording sheet for velocity traverse data. Use the averages in the last two columns of Figure 2-2 to determine the average stack gas velocity from Equation 2-2.

Use Equation 2-3 to calculate the stack gas volumetric flow rate.

$$Q_s = 3600\,(1-B_{wo})V_s A\left(\frac{T_{std}}{(T_s)_{avg.}}\right)\left(\frac{P_s}{P_{std}}\right)$$

Equation 2-3

where:

Q_s = Volumetric flow rate, dry basis, standard conditions, ft.³/hr.

A = Cross-sectional area of stack, ft.²

T_{std} = Absolute temperature at standard conditions, 530° R.

P_{std} = Absolute pressure at standard conditions, 29.92 inches Hg.

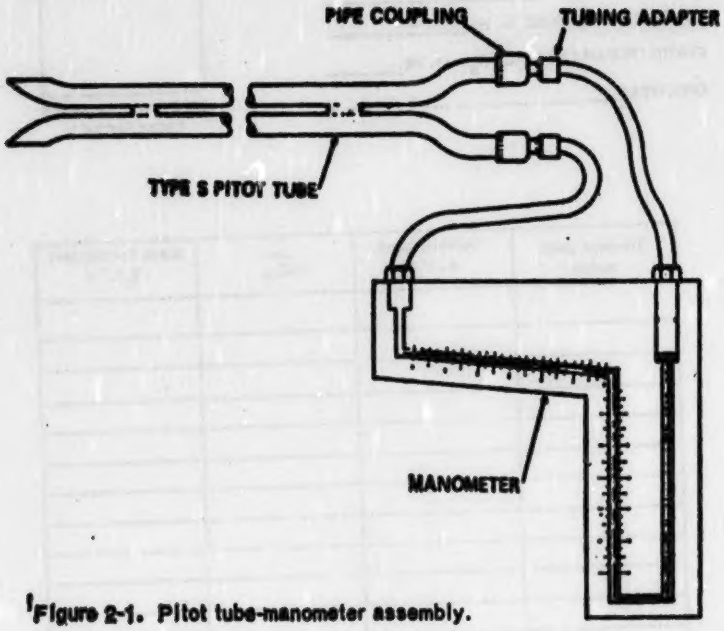

Figure 2-1. Pitot tube-manometer assembly.

6. *References.*

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Vennard, J. K., Elementary Fluid Mechanics, John Wiley & Sons, Inc., New York, N.Y., 1947.

PLANT______________________________

DATE______________________________

RUN NO.____________________________

STACK DIAMETER, in.____________________

BAROMETRIC PRESSURE, in. Hg._______________

STATIC PRESSURE IN STACK (P_g), in. Hg.________

OPERATORS__________________________

SCHEMATIC OF STACK CROSS SECTION

Traverse point number	Velocity head, in. H_2O	$\sqrt{\Delta p}$	Stack Temperature (T_s), °F
	AVERAGE:		

Figure 2-2. Velocity traverse data.

METHOD 3—GAS ANALYSIS FOR CARBON DIOXIDE, EXCESS AIR, AND DRY MOLECULAR WEIGHT

1. *Principle and applicability.*

1.1 Principle. An integrated or grab gas sample is extracted from a sampling point and analyzed for its components using an Orsat analyzer.

1.2 Applicability. This method should be applied only when specified by the test procedures for determining compliance with the New Source Performance Standards. The test procedure will indicate whether a grab sample or an integrated sample is to be used.

2. *Apparatus.*

2.1 Grab sample (Figure 3-1).

2.1.1 Probe—Stainless steel or Pyrex[1] glass, equipped with a filter to remove particulate matter.

2.1.2 Pump—One-way squeeze bulb, or equivalent, to transport gas sample to analyzer.

2.2 *Integrated sample (Figure 3-2).*

2.2.1 Probe—Stainless steel or Pyrex[1] glass, equipped with a filter to remove particulate matter.

2.2.2 Air-cooled condenser or equivalent—To remove any excess moisture.

2.2.3 Needle valve—To adjust flow rate.

2.2.4 Pump—Leak-free, diaphragm type, or equivalent, to pull gas.

2.2.5 Rate meter—To measure a flow range from 0 to 0.035 cfm.

2.2.6 Flexible bag—Tedlar,[1] or equivalent, with a capacity of 2 to 3 cu. ft. Leak test the bag in the laboratory before using.

2.2.7 Pitot tube—Type S, or equivalent, attached to the probe so that the sampling flow rate can be regulated proportional to the stack gas velocity when velocity is varying with time or a sample traverse is conducted.

2.3 *Analysis.*

2.3.1 Orsat analyzer, or equivalent.

3. *Procedure.*

3.1 Grab sampling.

3.1.1 Set up the equipment as shown in Figure 3-1, making sure all connections are leak-free. Place the probe in the stack at a sampling point and purge the sampling line.

3.1.2 Draw sample into the analyzer.

3.2 Integrated sampling.

3.2.1 Evacuate the flexible bag. Set up the equipment as shown in Figure 3-2 with the bag disconnected. Place the probe in the stack and purge the sampling line. Connect the bag, making sure that all connections are tight and that there are no leaks.

3.2.2 Sample at a rate proportional to the stack velocity.

3.3 Analysis.

3.3.1 Determine the CO_2, O_2, and CO concentrations as soon as possible. Make as many passes as are necessary to give constant readings. If more than ten passes are necessary, replace the absorbing solution.

3.3.2 For grab sampling, repeat the sampling and analysis until three consecutive samples vary no more than 0.5 percent by volume for each component being analyzed.

3.3.3 For integrated sampling, repeat the analysis of the sample until three consecutive analyses vary no more than 0.2 percent by volume for each component being analyzed.

4. *Calculations.*

4.1 Carbon dioxide. Average the three consecutive runs and report the result to the nearest 0.1% CO_2.

4.2 Excess air. Use Equation 3-1 to calculate excess air, and average the runs. Report the result to the nearest 0.1% excess air.

$$\%\,EA = \frac{(\%\,O_2) - 0.5(\%\,CO)}{0.264(\%\,N_2) - (\%\,O_2) + 0.5(\%\,CO)} \times 100$$

equation 3-1

where:

%EA = Percent excess air.

$\%O_2$ = Percent oxygen by volume, dry basis.

$\%N_2$ = Percent nitrogen by volume, dry basis.

%CO = Percent carbon monoxide by volume, dry basis.

0.264 = Ratio of oxygen to nitrogen in air by volume.

4.3 Dry molecular weight. Use Equation 3-2 to calculate dry molecular weight and average the runs. Report the result to the nearest tenth.

$$M_d = 0.44(\%CO_2) + 0.32(\%O_2) + 0.28(\%N_2 + \%CO)$$

equation 3-2

where:

M_d—Dry molecular weight, lb./lb-mole.

$\%CO_2$—Percent carbon dioxide by volume, dry basis.

$\%O_2$—Percent oxygen by volume, dry basis.

$\%N_2$—Percent nitrogen by volume, dry basis.

0.44—Molecular weight of carbon dioxide divided by 100.

0.32—Molecular weight of oxygen divided by 100.

0.28—Molecular weight of nitrogen and CO divided by 100.

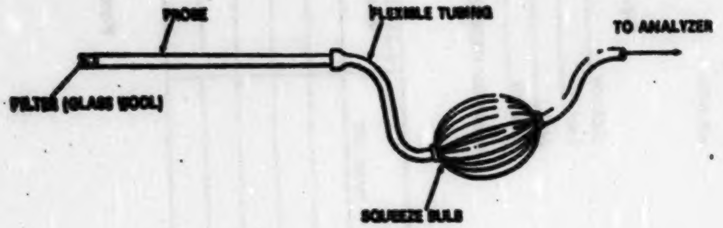

Figure 3-1. Grab-sampling train.

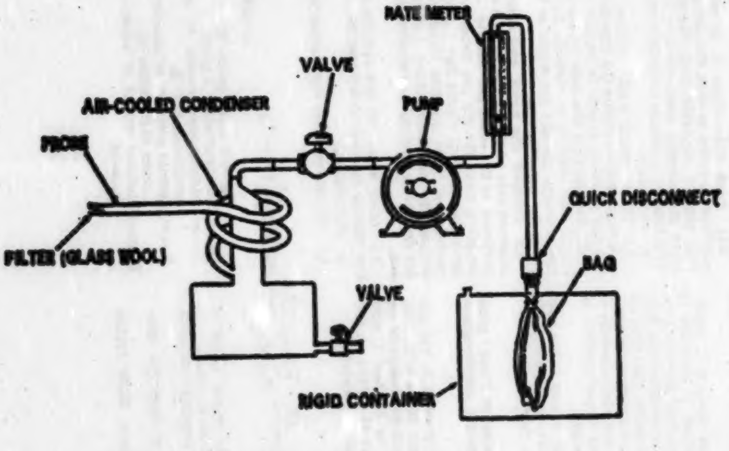

Figure 3-2. Integrated gas-sampling train.

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[1] Trade name.

8. *References.*

Altshuller, A. P., et al., Storage of Gases and Vapors in Plastic Bags, Int. J. Air & Water Pollution, 6:75–81, 1963.

Conner, William D., and J. S. Nader, Air Sampling with Plastic Bags, Journal of the American Industrial Hygiene Association, 25:291–297, May–June 1964.

Devorkin, Howard, et al., Air Pollution Source Testing Manual, Air Pollution Control District, Los Angeles, Calif., November 1963.

METHOD 4—DETERMINATION OF MOISTURE IN STACK GASES

1. *Principle and applicability.*

1.1 Principle. Moisture is removed from the gas stream, condensed, and determined volumetrically.

1.2 Applicability. This method is applicable for the determination of moisture in stack gas only when specified by test procedures for determining compliance with New Source Performance Standards. This method does not apply when liquid droplets are present in the gas stream[1] and the moisture is subsequently used in the determination of stack gas molecular weight.

Other methods such as drying tubes, wet bulb-dry bulb techniques, and volumetric condensation techniques may be used.

2. *Apparatus.*

2.1 Probe—Stainless steel or Pyrex[2] glass sufficiently heated to prevent condensation and equipped with a filter to remove particulate matter.

2.2 Impingers—Two midget impingers, each with 30 ml. capacity, or equivalent.

2.3 Ice bath container—To condense moisture in impingers.

2.4 Silica gel tube (optional)—To protect pump and dry gas meter.

2.5 Needle valve—To regulate gas flow rate.

2.6 Pump—Leak-free, diaphragm type, or equivalent, to pull gas through train.

2.7 Dry gas meter—To measure to within 1% of the total sample volume.

2.8 Rotameter—To measure a flow range from 0 to 0.1 c.f.m.

2.9 Graduated cylinder—25 ml.

2.10 Barometer—Sufficient to read to within 0.1 inch Hg.

2.11 Pitot tube—Type S, or equivalent, attached to probe so that the sampling flow rate can be regulated proportional to the stack gas velocity when velocity is varying with time or a sample traverse is conducted.

3. *Procedure.*

3.1 Place exactly 5 ml. distilled water in each impinger. Assemble the apparatus without the probe as shown in Figure 4–1. Leak check by plugging the inlet to the first impinger and drawing a vacuum. Insure that flow through the dry gas meter is less than 1% of the sampling rate.

3.2 Connect the probe and sample at a constant rate of 0.075 c.f.m. or at a rate proportional to the stack gas velocity. Continue sampling until the dry gas meter registers 1 cubic foot or until visible liquid droplets are carried over from the first impinger to the second. Record temperature, pressure, and dry gas meter readings as required by Figure 4–2.

3.3 After collecting the sample, measure the volume increase to the nearest 0.5 ml.

4. *Calculations.*

4.1 Volume of water vapor collected.

$$V_{wc}=\frac{(V_f-V_i)\rho_{H_2O}RT_{std}}{P_{std}M_{H_2O}}=0.0474\frac{\text{ft.}^3}{\text{ml.}}(V_f-V_i)$$

equation 4–1

where:

V_{wc}=Volume of water vapor collected (standard conditions), cu. ft.

V_f=Final volume of impinger contents, ml.

V_i=Initial volume of impinger contents, ml.

R=Ideal gas constant, 21.83 inches Hg—cu. ft./lb. mole-°R.

ρ_{H_2O}=Density of water, 1 g./ml.

T_{std}=Absolute temperature at standard conditions, 530° R.

P_{std}=Absolute pressure at standard conditions, 29.92 inches Hg.

M_{H_2O}=Molecular weight of water, 18 lb./lb.-mole.

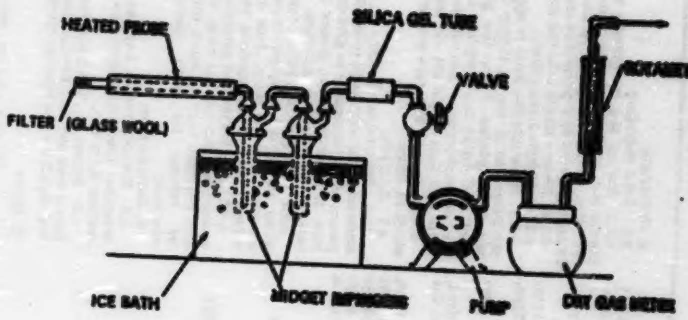

Figure 4-1. Moisture-sampling train.

LOCATION____________________

TEST____________________ COMMENTS

DATE____________________

OPERATOR____________________

BAROMETRIC PRESSURE____________________

CLOCK TIME	GAS VOLUME THROUGH METER, (Vm), ft³	ROTAMETER SETTING ft³/min	METER TEMPERATURE, °F

Figure 4-2. Field moisture determination.

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[1] If liquid droplets are present in the gas stream, assume the stream to be saturated, determine the average stack gas temperature by traversing according to Method 1, and use a psychrometric chart to obtain an approximation of the moisture percentage.

[2] Trade name.

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4.2 Gas volume.

$$V_{mc}=V_m\left(\frac{P_m}{P_{std}}\right)\left(\frac{T_{std}}{T_m}\right)=17.71\ \frac{°R}{in.\ Hg}\left(\frac{V_mP_m}{T_m}\right)\qquad \text{equation 4-2}$$

where:

V_{mc} = Dry gas volume through meter at standard conditions, cu. ft.

V_m = Dry gas volume measured by meter, cu. ft.

P_m = Barometric pressure at the dry gas meter, inches Hg.

P_{std} = Pressure at standard conditions, 29.92 inches Hg.

T_{std} = Absolute temperature at standard conditions, 530° R.

T_m = Absolute temperature at meter (°F+460), °R.

4.3 Moisture content.

$$B_{wo}=\frac{V_{wc}}{V_{wc}+V_{mc}}+B_{wm}=\frac{V_{wc}}{V_{wc}+V_{mc}}+(0.025)\qquad \text{equation 4-3}$$

where:

B_{wo} = Proportion by volume of water vapor in the gas stream, dimensionless.

V_{wc} = Volume of water vapor collected (standard conditions), cu. ft.

V_{mc} = Dry gas volume through meter (standard conditions), cu. ft.

B_{wm} = Approximate volumetric proportion of water vapor in the gas stream leaving the impingers, 0.025.

5. *References.*

Air Pollution Engineering Manual, Danielson, J. A. (ed.), U.S. DHEW, PHS, National Center for Air Pollution Control, Cincinnati, Ohio, PHS Publication No. 999-AP-40, 1967.

Devorkin, Howard, et al., Air Pollution Source Testing Manual, Air Pollution Control District, Los Angeles, Calif., November 1963.

Methods for Determination of Velocity, Volume, Dust and Mist Content of Gases, Western Precipitation Division of Joy Manufacturing Co., Los Angeles, Calif., Bulletin WP-50, 1968.

METHOD 5—DETERMINATION OF PARTICULATE EMISSIONS FROM STATIONARY SOURCES

1. *Principle and applicability.*

1.1 Principle. Particulate matter is withdrawn isokinetically from the source and its weight is determined gravimetrically after removal of uncombined water.

1.2 Applicability. This method is applicable for the determination of particulate emissions from stationary sources only when specified by the test procedures for determining compliance with New Source Performance Standards.

2. *Apparatus.*

2.1 Sampling train. The design specifications of the particulate sampling train used by EPA (Figure 5-1) are described in APTD-0581. Commercial models of this train are available.

2.1.1 Nozzle—Stainless steel (316) with sharp, tapered leading edge.

2.1.2 Probe—Pyrex[1] glass with a heating system capable of maintaining a minimum gas temperature of 250° F. at the exit end during sampling to prevent condensation from occurring. When length limitations (greater than about 8 ft.) are encountered at temperatures less than 600° F., Incoloy 825[1], or equivalent, may be used. Probes for sampling gas streams at temperatures in excess of 600° F. must have been approved by the Administrator.

2.1.3 Pitot tube—Type S, or equivalent, attached to probe to monitor stack gas velocity.

2.1.4 Filter Holder—Pyrex[1] glass with heating system capable of maintaining minimum temperature of 225° F.

2.1.5 Impingers / Condenser—Four impingers connected in series with glass ball joint fittings. The first, third, and fourth impingers are of the Greenburg-Smith design, modified by replacing the tip with a ½-inch ID glass tube extending to one-half inch from the bottom of the flask. The second impinger is of the Greenburg-Smith design with the standard tip. A condenser may be used in place of the impingers provided that the moisture content of the stack gas can still be determined.

2.1.6 Metering system—Vacuum gauge, leak-free pump, thermometers capable of measuring temperature to within 5° F., dry gas meter with 2% accuracy, and related equipment, or equivalent, as required to maintain an isokinetic sampling rate and to determine sample volume.

2.1.7 Barometer—To measure atmospheric pressure to ±0.1 inches Hg.

2.2 Sample recovery.

2.2.1 Probe brush—At least as long as probe.

2.2.2 Glass wash bottles—Two.

2.2.3 Glass sample storage containers.

2.2.4 Graduated cylinder—250 ml.

2.3 Analysis.

2.3.1 Glass weighing dishes.

2.3.2 Desiccator.

2.3.3 Analytical balance—To measure to ±0.1 mg.

2.3.4 Trip balance—300 g. capacity, to measure to ±0.05 g.

3. *Reagents.*

3.1 Sampling.

3.1.1 Filters—Glass fiber, MSA 1106 BH[1], or equivalent, numbered for identification and preweighed.

3.1.2 Silica gel—Indicating type, 6-16 mesh, dried at 175° C. (350° F.) for 2 hours.

3.1.3 Water.

3.1.4 Crushed ice.

3.2 Sample recovery.

3.2.1 Acetone—Reagent grade.

3.3 Analysis.

3.3.1 Water.

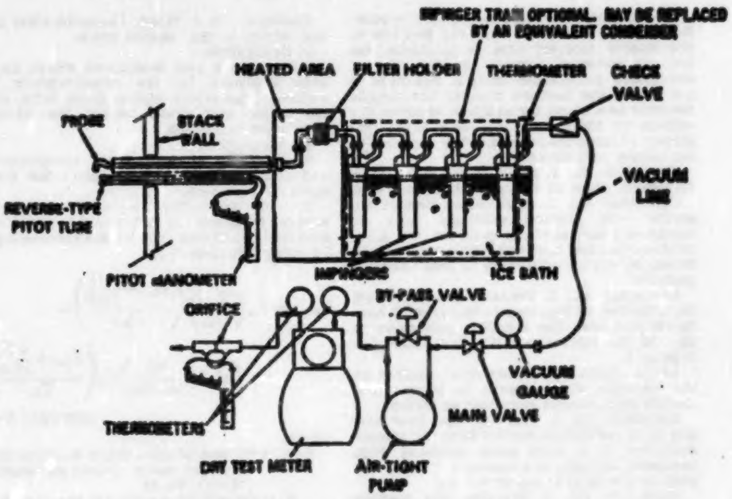

Figure 5-1. Particulate-sampling train.

3.3.2 Desiccant—Drierite,[1] indicating.

4. *Procedure.*

4.1 Sampling

4.1.1 After selecting the sampling site and the minimum number of sampling points, determine the stack pressure, temperature, moisture, and range of velocity head.

4.1.2 Preparation of collection train. Weigh to the nearest gram approximately 200 g. of silica gel. Label a filter of proper diameter, desiccate[2] for at least 24 hours and weigh to the nearest 0.5 mg. in a room where the relative humidity is less than 50%. Place 100 ml. of water in each of the first two impingers, leave the third impinger empty, and place approximately 200 g. of preweighed silica gel in the fourth impinger. Set up the train without the probe as in Figure 5-1. Leak check the sampling train at the sampling site by plugging up the inlet to the filter holder and pulling a 15 in. Hg vacuum. A leakage rate not in excess of 0.02 c.f.m. at a vacuum of 15 in. Hg is acceptable. Attach the probe and adjust the heater to provide a gas temperature of about 250° F. at the probe outlet. Turn on the filter heating system. Place crushed ice around the impingers. Add more ice during the run to keep the temperature of the gases leaving the last impinger as low as possible and preferably at 70° F., or less. Temperatures above 70° F. may result in damage to the dry gas meter from either moisture condensation or excessive heat.

4.1.3 Particulate train operation. For each run, record the data required on the example sheet shown in Figure 5-2. Take readings at each sampling point, at least every 5 minutes, and when significant changes in stack conditions necessitate additional adjustments in flow rate. To begin sampling, position the nozzle at the first traverse point with the tip pointing directly into the gas stream. Immediately start the pump and adjust the flow to isokinetic conditions. Sample for at least 5 minutes at each traverse point; sampling time must be the same for each point. Maintain isokinetic sampling throughout the sampling period. Nomographs are available which aid in the rapid adjustment of the sampling rate without other computations. APTD-0576 details the procedure for using these nomographs. Turn off the pump at the conclusion of each run and record the final readings. Remove the probe and nozzle from the stack and handle in accordance with the sample recovery process described in section 4.2.

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[1] Trade name.

[1] Trade name.

[2] Dry using Drierite[1] at 70° F.±10° F.

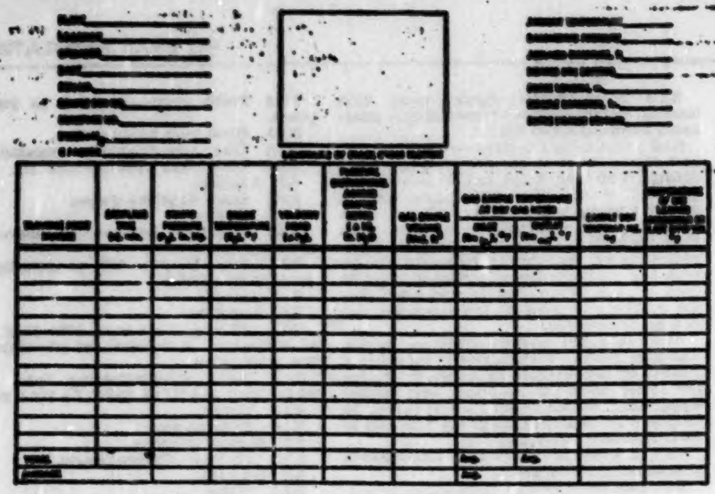

Figure 5-2. Particulate field data.

6.3 Sample recovery. Exercise care in moving the collection train from the test site to the sample recovery area to minimize the loss of collected sample or the gain of extraneous particulate matter. Set aside a portion of the acetone used in the sample recovery as a blank for analysis. Measure the volume of water from the first three impingers, then discard. Place the samples in containers as follows:

Container No. 1. Remove the filter from its holder, place in this container, and seal.

Container No. 2. Place loose particulate matter and acetone washings from all sample-exposed surfaces prior to the filter in this container and seal. Use a razor blade, brush, or rubber policeman to lose adhering particles.

Container No. 3. Transfer the silica gel from the fourth impinger to the original container and seal. Use a rubber policeman as an aid in removing silica gel from the impinger.

4.3 Analysis. Record the data required on the example sheet shown in Figure 5-3. Handle each sample container as follows:

Container No. 1. Transfer the filter and any loose particulate matter from the sample container to a tared glass weighing dish, desiccate, and dry to a constant weight. Report results to the nearest 0.5 mg.

Container No. 2. Transfer the acetone washings to a tared beaker and evaporate to dryness at ambient temperature and pressure. Desiccate and dry to a constant weig. Report results to the nearest 0.5 mg.

Container No. 3. Weigh the spent silica gel and report to the nearest gram.

5. *Calibration.*

Use methods and equipment which have been approved by the Administrator to calibrate the orifice meter, pitot tube, dry gas meter, and probe heater. Recalibrate after each test series.

6. *Calculations.*

6.1 Average dry gas meter temperature and average orifice pressure drop. See data sheet (Figure 5-2).

6.2 Dry gas volume. Correct the sample volume measured by the dry gas meter to standard conditions (70° F., 29.92 inches Hg) by using Equation 5-1.

$$V_{m_{std}} = V_m\left(\frac{T_{std}}{T_m}\right)\left(\frac{P_{bar}+\frac{\Delta H}{13.6}}{P_{std}}\right) = \left(17.71\,\frac{{}^\circ\text{R.}}{\text{in. Hg}}\right)V_m\left(\frac{P_{bar}+\frac{\Delta H}{13.6}}{T_m}\right)$$

equation 5-1

where:

$V_{m_{std}}$ = Volume of gas sample through the dry gas meter (standard conditions), cu. ft.

V_m = Volume of gas sample through the dry gas meter (meter conditions), cu. ft.

T_{std} = Absolute temperature at standard conditions, 528° R.

$$V_{w_{std}} = V_{l_c}\frac{\rho_{H_2O}}{M_{H_2O}}\frac{RT_{std}}{P_{std}}\frac{\text{lb.}}{454\text{ gm.}} = 0.0474\,\frac{\text{cu. ft.}}{\text{ml.}}V_{l_c}$$

equation 5-2

where:

$V_{w_{std}}$ = Volume of water vapor in the gas sample (standard conditions), cu. ft.

V_{l_c} = Total volume of liquid collected in impingers and silica gel (see Figure 5-3), ml.

ρ_{H_2O} = Density of water, 1 g./ml.

M_{H_2O} = Molecular weight of water, 18 lb./lb.-mole.

R = Ideal gas constant, 21.83 inches Hg—cu. ft./lb.-mole-°R.

T_{std} = Absolute temperature at standard conditions, 528° R.

P_{std} = Absolute pressure at standard conditions, 29.92 inches Hg.

6.4 Moisture content.

$$B_{wo} = \frac{V_{w_{std}}}{V_{m_{std}}+V_{w_{std}}}$$

equation 5-3

where:

B_{wo} = Proportion by volume of water vapor in the gas stream, dimensionless.

$V_{w_{std}}$ = Volume of water in the gas sample (standard conditions), cu. ft.

$V_{m_{std}}$ = Volume of gas sample through the dry gas meter (standard conditions), cu. ft.

6.5 Total particulate weight. Determine the total particulate catch from the sum of the weights on the analysis data sheet (Figure 5-3).

6.6 Concentration.

6.6.1 Concentration in gr./s.c.f.

$$\text{[illegible]}\left(\text{[illegible]}154\,\frac{\text{gr.}}{\text{mg.}}\right)\left(\frac{M_n}{V_{m_{std}}}\right)$$

equation 5-4

where:

c'_s = Concentration of particulate matter in stack gas, gr./s.c.f., dry basis.

M_n = Total amount of particulate matter collected, mg.

$V_{m_{std}}$ = Volume of gas sample through dry gas meter (standard conditions), cu. ft.

PLANT____________________

DATE____________________

RUN NO.____________________

CONTAINER NUMBER	WEIGHT OF PARTICULATE COLLECTED, mg		
	FINAL WEIGHT	TARE WEIGHT	WEIGHT GAIN
1			
2			
TOTAL			

	VOLUME OF LIQUID WATER COLLECTED	
	IMPINGER VOLUME, ml	SILICA GEL WEIGHT, g
FINAL		
INITIAL		
LIQUID COLLECTED		
TOTAL VOLUME COLLECTED		g* ml

CONVERT WEIGHT OF WATER TO VOLUME BY DIVIDING TOTAL WEIGHT INCREASE BY DENSITY OF WATER. (1 g. ml):

$$\frac{\text{INCREASE, g}}{(1\ \text{g/ml})} = \text{VOLUME WATER, ml}$$

Figure 5-3. Analytical data.

6.6.2 Concentration in lb./cu. ft.

$$c_s = \frac{\left(\frac{1}{453{,}600}\frac{\text{lb.}}{\text{mg.}}\right)M_n}{V_{m_{std}}} = 2.205\times10^{-6}\frac{M_n}{V_{m_{std}}}$$

equation 5-5

where:

c_s = Concentration of particulate matter in stack gas, lb./s.c.f., dry basis.

453,600 = Mg/lb.

M_n = Total amount of particulate matter collected, mg.

$V_{m_{std}}$ = Volume of gas sample through dry gas meter (standard conditions), cu. ft.

6.7 Isokinetic variation.

$$I = \frac{T_s\left[\left(\frac{0.00267\ \text{in. Hg-cu. ft.}}{\text{ml}-{}^\circ\text{R}}\right)V_{l_c} + \frac{V_m}{T_m}\left(P_{bar} + \frac{H}{13.6}\right)\right]\left(1.667\frac{\text{min.}}{\text{sec.}}\right)}{\theta V_s P_s A_n}$$

equation 5-6

where:

I = Percent of isokinetic sampling.

V_{l_c} = Total volume of liquid collected in impingers and silica gel (See Fig. 5-3), ml.

ρ_{H_2O} = Density of water, 1 g./ml.

R = Ideal gas constant, 21.83 inches Hg-cu. ft./lb. mole-°R.

M_{H_2O} = Molecular weight of water, 18 lb./lb.-mole.

V_m = Volume of gas sample through the dry gas meter (meter conditions), cu. ft.

T_m = Absolute average dry gas meter temperature (see Figure 5-2), °R.

P_{bar} = Barometric pressure at sampling site, inches Hg.

ΔH = Average pressure drop across the orifice (see Fig. 5-2), inches H_2O.

T_s = Absolute average stack gas temperature (see Fig. 5-2), °R.

θ = Total sampling time, min.

V_s = Stack gas velocity calculated by Method 2, Equation 2-2, ft./sec.

P_s = Absolute stack gas pressure, inches Hg.

A_n = Cross-sectional area of nozzle, sq. ft.

6.8 Acceptable results. The following range sets the limit on acceptable isokinetic sampling results:

If 90% ≤ I ≤ 110%, the results are acceptable, otherwise, reject the results and repeat the test.

7. *References.*

Addendum to Specifications for Incinerator Testing at Federal Facilities, PHS, NCAPC, Dec. 6, 1967.

Martin, Robert M., Construction Details of Isokinetic Source Sampling Equipment, Environmental Protection Agency, APTD-0581.

Rom, Jerome J., Maintenance, Calibration, and Operation of Isokinetic Source Sampling Equipment, Environmental Protection Agency, APTD-0576.

Smith, W. S., R. T. Shigehara, and W. F. Todd, A Method of Interpreting Stack Sampling Data, Paper presented at the 63d Annual Meeting of the Air Pollution Control Association, St. Louis, Mo., June 14-19, 1970.

Smith, W. S., et al., Stack Gas Sampling Improved and Simplified with New Equipment, APCA paper No. 67-119, 1967.

Specifications for Incinerator Testing at Federal Facilities, PHS, NCAPC, 1967.

METHOD 6—DETERMINATION OF SULFUR DIOXIDE EMISSIONS FROM STATIONARY SOURCES

1. *Principle and applicability.*

1.1 Principle. A gas sample is extracted from the sampling point in the stack. The acid mist, including sulfur trioxide, is separated from the sulfur dioxide. The sulfur dioxide fraction is measured by the barium-thorin titration method.

1.2 Applicability. This method is applicable for the determination of sulfur dioxide emissions from stationary sources only when specified by the test procedures for determining compliance with New Source Performance Standards.

2. *Apparatus.*

2.1 Sampling. See Figure 6-1.

2.1.1 Probe—Pyrex[1] glass, approximately 5 to 6 mm. ID, with a heating system to prevent condensation and a filtering medium to remove particulate matter including sulfuric acid mist.

2.1.2 Midget bubbler—One, with glass wool packed in top to prevent sulfuric acid mist carryover.

2.1.3 Glass wool.

2.1.4 Midget impingers—Three.

2.1.5 Drying tube—Packed with 6 to 16 mesh indicating-type silica gel, or equivalent, to dry the sample.

2.1.6 Valve—Needle valve, or equivalent, to adjust flow rate.

2.1.7 Pump—Leak-free, vacuum type.

2.1.8 Rate meter—Rotameter or equivalent, to measure a 0-10 s.c.f.h. flow range.

2.1.9 Dry gas meter—Sufficiently accurate to measure the sample volume within 1%.

2.1.10 Pitot tube—Type S, or equivalent, necessary only if a sample traverse is required, or if stack gas velocity varies with time.

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[1] Trade names.

2.2 Sample recovery.

2.2.1 Glass wash bottles—Two.

2.2.2 Polyethylene storage bottles—To store impinger samples.

2.3 Analysis.

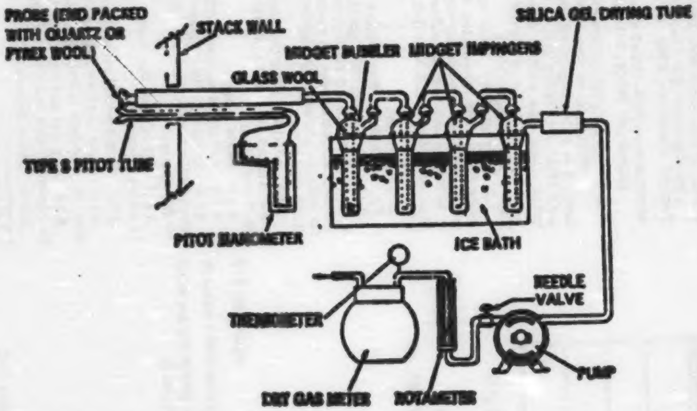

Figure 6-1. SO_2 sampling train.

2.3.1 Pipettes—Transfer type, 5 ml. and 10 ml. sizes (0.1 ml. divisions) and 25 ml. size (0.2 ml. divisions).

2.3.2 Volumetric flasks—50 ml., 100 ml., and 1,000 ml.

2.3.3 Burettes—5 ml. and 50 ml.

2.3.4 Erlenmeyer flask—125 ml.

3. *Reagents.*

3.1 Sampling.

3.1.1 Water—Deionized, distilled.

3.1.2 Isopropanol, 80%—Mix 80 ml. of isopropanol with 20 ml. of distilled water.

3.1.3 Hydrogen peroxide, 3%—dilute 100 ml. of 30% hydrogen peroxide to 1 liter with distilled water. Prepare fresh daily.

3.2 Sample recovery.

3.2.1 Water—Deionized, distilled.

3.2.2 Isopropanol, 80%.

3.3 Analysis.

3.3.1 Water—Deionized, distilled.

3.3.2 Isopropanol.

3.3.3 Thorin indicator—1-(o-arsonophenylazo)-2-naphthol-3,6-disulfonic acid, disodium salt (or equivalent). Dissolve 0.20 g. in 100 ml. distilled water.

3.3.4 Barium perchlorate (0.01 *N*)—Dissolve 1.95 g. of barium perchlorate [$Ba(ClO_4)_2 \cdot 3H_2O$] in 200 ml. distilled water and dilute to 1 liter with isopropanol. Standardize with sulfuric acid. Barium chloride may be used.

3.3.5 Sulfuric acid standard (0.01 *N*)—Purchase or standardize to ±0.0002 *N* against 0.01N NaOH which has previously been standardized against potassium acid phthalate (primary standard grade).

4. *Procedure.*

4.1 Sampling.

4.1.1 Preparation of collection train. Pour 15 ml. of 80% isopropanol into the midget bubbler and 15 ml. of 3% hydrogen peroxide into each of the first two midget impingers. Leave the final midget impinger dry. Assemble the train as shown in Figure 6-1. Leak check the sampling train at the sampling site by plugging the probe inlet and pulling a 10 inches Hg vacuum. A leakage rate not in excess of 1% of the sampling rate is acceptable. Carefully release the probe inlet plug and turn off the pump. Place crushed ice around the impingers. Add more ice during the run to keep the temperature of the gases leaving the last impinger at 70° F. or less.

4.1.2 Sample collection. Adjust the sample flow rate proportional to the stack gas velocity. Take readings at least every five minutes and when significant changes in stack conditions necessitate additional adjustments in flow rate. To begin sampling, position the tip of the probe at the first sampling point and start the pump. Sample proportionally throughout the run. At the conclusion of each run, turn off the pump and record the final readings. Remove the probe from the stack and disconnect it from the train. Drain the ice bath and purge the remaining part of the train by drawing clean ambient air through the system for 15 minutes.

4.2 Sample recovery. Disconnect the impingers after purging. Discard the contents of the midget bubbler. Pour the contents of the midget impingers into a polyethylene shipment bottle. Rinse the three midget impingers and the connecting tubes with distilled water and add these washings to the same storage container.

4.3 Sample analysis. Transfer the contents of the storage container to a 50 ml. volumetric flask. Dilute to the mark with deionized, distilled water. Pipette a 10 ml. aliquot of this solution into a 125 ml. Erlenmeyer flask. Add 40 ml. of isopropanol and two to four drops of thorin indicator. Titrate to a pink endpoint using 0.01 *N* barium perchlorate. Run a blank with each series of samples.

5. *Calibration.*

5.1 Use standard methods and equipment which have been approved by the Administrator to calibrate the rotameter, pitot tube, dry gas meter, and probe heater.

5.2 Standardize the barium perchlorate against 25 ml. of standard sulfuric acid containing 100 ml. of isopropanol.

6. *Calculations.*

6.1 Dry gas volume. Correct the sample volume measured by the dry gas meter to standard conditions (70° F. and 29.92 inches Hg) by using equation 6-1.

$$V_{m_{std}} = V_m\left(\frac{T_{std}}{T_m}\right)\left(\frac{P_{bar}}{P_{std}}\right) = 17.71\frac{°R.}{in.\ Hg}\left(\frac{V_m P_{bar}}{T_m}\right) \qquad \text{equation 6-1}$$

where:

$V_{m_{std}}$ = Volume of gas sample through the dry gas meter (standard conditions), cu. ft.

V_m = Volume of gas sample through the dry gas meter (meter conditions), cu. ft.

T_{std} = Absolute temperature at standard conditions, 530° R.

T_m = Average dry gas meter temperature, °R.

P_{bar} = Barometric pressure at the orifice meter, inches Hg.

P_{std} = Absolute pressure at standard conditions, 29.92 inches Hg.

6.2 Sulfur dioxide concentration.

$$C_{SO_2} = \left(7.05\times10^{-5}\frac{lb.-l.}{g.-ml.}\right)\frac{(V_t - V_{tb})N\left(\frac{V_{soln}}{V_a}\right)}{V_{m_{std}}} \qquad \text{equation 6-2}$$

where:

C_{SO_2} = Concentration of sulfur dioxide at standard conditions, dry basis, lb./cu. ft.

7.05×10^{-5} = Conversion factor, including the number of grams per gram equivalent of sulfur dioxide (32 g./g.-eq.), 453.6 g./lb., and 1,000 ml./l., lb.-l./g.-ml.

V_t = Volume of barium perchlorate titrant used for the sample, ml.

V_{tb} = Volume of barium perchlorate titrant used for the blank, ml.

N = Normality of barium perchlorate titrant, g.-eq./l.

V_{soln} = Total solution volume of sulfur dioxide, 50 ml.

V_a = Volume of sample aliquot titrated, ml.

$V_{m_{std}}$ = Volume of gas sample through the dry gas meter (standard conditions), cu. ft., see Equation 6-1.

7. *References.*

Atmospheric Emissions from Sulfuric Acid Manufacturing Processes, U.S. DHEW, PHS, Division of Air Pollution, Public Health Service Publication No. 999-AP-13, Cincinnati, Ohio, 1965.

Corbett, P. F., The Determination of SO_2 and SO_3 in Flue Gases, Journal of the Institute of Fuel, 24:237-243, 1961.

Matty, R. E. and E. K. Diehl, Measuring Flue-Gas SO_2 and SO_3, Power 101:94-97, November, 1957.

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METHOD 7—DETERMINATION OF NITROGEN OXIDE EMISSIONS FROM STATIONARY SOURCES

1. *Principle and applicability.*

1.1 Principle. A grab sample is collected in an evacuated flask containing a dilute sulfuric acid-hydrogen peroxide absorbing solution, and the nitrogen oxides, except nitrous oxide, are measure colorimetrically using the phenoldisulfonic acid (PDS) procedure.

1.2 Applicability. This method is applicable for the measurement of nitrogen oxides from stationary sources only when specified by the test procedures for determining compliance with New Source Performance Standards.

2. *Apparatus.*

2.1 Sampling. See Figure 7-1.

2.1.1 Probe—Pyrex[1] glass, heated, with filter to remove particulate matter. Heating is unnecessary if the probe remains dry during the purging period.

2.1.2 Collection flask—Two-liter, Pyrex,[1] round bottom with short neck and 24/40 standard taper opening, protected against implosion or breakage.

2.1.3 Flask valve—T-bore stopcock connected to a 24/40 standard taper joint.

2.1.4 Temperature gauge—Dial-type thermometer, or equivalent, capable of measuring 2° F. intervals from 25° to 125° F.

2.1.5 Vacuum line—Tubing capable of withstanding a vacuum of 3 inches Hg absolute pressure, with "T" connection and T-bore stopcock, or equivalent.

2.1.6 Pressure gauge—U-tube manometer, 36 inches, with 0.1-inch divisions, or equivalent.

2.1.7 Pump—Capable of producing a vacuum of 3 inches Hg absolute pressure.

2.1.8 Squeeze bulb—One way.

2.2 Sample recovery.

2.2.1 Pipette or dropper.

2.2.2 Glass storage containers—Cushioned for shipping.

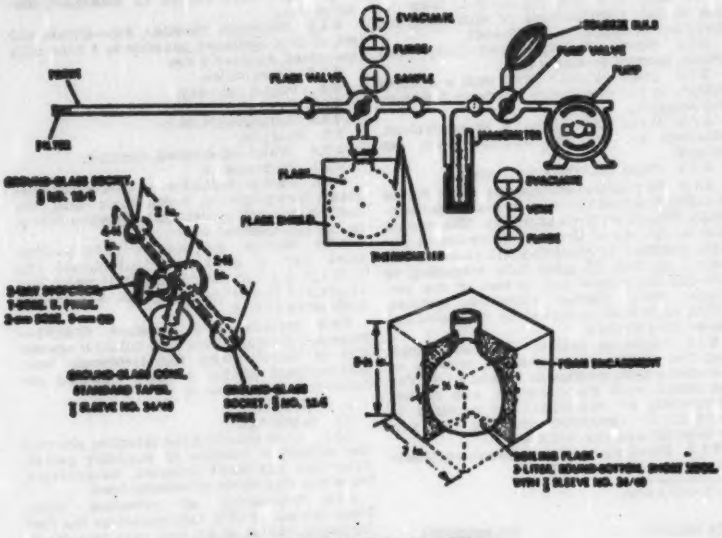
PROBE
FILTER
FLASK VALVE
EVACUATE
PURGE
SAMPLE
SQUEEZE BULB
PUMP VALVE
PUMP
MANOMETER
FLASK
FLASK SHIELD
THERMOMETER
EVACUATE
VENT
PURGE
GROUND-GLASS SOCKET, § NO. 12/5
3-WAY STOPCOCK T-BORE, § PYREX, 2-mm BORE, 8-mm OD
GROUND-GLASS CONE, STANDARD TAPER, § SLEEVE NO. 24/40
GROUND-GLASS SOCKET, § NO. 12/5 PYREX
FOAM ENCASEMENT
BOILING FLASK - 2-LITER, ROUND-BOTTOM, SHORT NECK, WITH § SLEEVE NO. 24/40
7 in.

Figure 7-1. Sampling train, flask valve, and flask.

2.2.3 Glass wash bottle.

2.3 Analysis.

2.3.1 Steam bath.

2.3.2 Beakers or casseroles—250 ml., one for each sample and standard (blank).

2.3.3 Volumetric pipettes—1, 2, and 10 ml.

2.3.4 Transfer pipette—10 ml. with 0.1 ml. divisions.

2.3.5 Volumetric flask—100 ml., one for each sample, and 1,000 ml. for the standard (blank).

2.3.6 Spectrophotometer—To measure absorbance at 420 nm.

2.3.7 Graduated cylinder—100 ml. with 1.0 ml. divisions.

2.3.8 Analytical balance—To measure to 0.1 mg.

3. *Reagents.*

3.1 Sampling.

3.1.1 Absorbing solution—Add 2.8 ml. of concentrated H_2SO_4 to 1 liter of distilled water. Mix well and add 6 ml. of 3 percent hydrogen peroxide. Prepare a fresh solution weekly and do not expose to extreme heat or direct sunlight.

3.2 Sample recovery.

3.2.1 Sodium hydroxide (1*N*)—Dissolve 40 g. NaOH in distilled water and dilute to 1 liter.

3.2.2 Red litmus paper.

3.2.3 Water—Deionized, distilled.

3.3 Analysis.

3.3.1 Fuming sulfuric acid—15 to 18% by weight free sulfur trioxide.

3.3.2 Phenol—White solid reagent grade.

3.3.3 Sulfuric acid—Concentrated reagent grade.

3.3.4 Standard solution—Dissolve 0.5495 g. potassium nitrate (KNO_3) in distilled water and dilute to 1 liter. For the working standard solution, dilute 10 ml. of the resulting solution to 100 ml. with distilled water. One ml. of the working standard solution is equivalent to 25 μg. nitrogen dioxide.

3.3.5 Water—Deionized, distilled.

3.3.6 Phenoldisulfonic acid solution—Dissolve 25 g. of pure white phenol in 150 ml. concentrated sulfuric acid on a steam bath. Cool, add 75 ml. fuming sulfuric acid, and heat at 100° C. for 2 hours. Store in a dark, stoppered bottle.

4. *Procedure.*

4.1 Sampling.

4.1.1 Pipette 25 ml. of absorbing solution into a sample flask. Insert the flask valve stopper into the flask with the valve in the "purge" position. Assemble the sampling train as shown in Figure 7-1 and place the probe at the sampling point. Turn the flask valve and the pump valve to their "evacuate" positions. Evacuate the flask to at least 3 inches Hg absolute pressure. Turn the pump valve to its "vent" position and turn off the pump. Check the manometer for any fluctuation in the mercury level. If there is a visible change over the span of one minute, check for leaks. Record the initial volume, temperature, and barometric pressure. Turn the flask valve to its "purge" position, and then do the same with the pump valve. Purge the probe and the vacuum tube using the squeeze bulb. If condensation occurs in the probe and flask valve area, heat the probe and purge until the condensation disappears. Then turn the pump valve to its "vent" position. Turn the flask valve to its "sample" position and allow sample to enter the flask for about 15 seconds. After collecting the sample, turn the flask valve to its "purge" position and disconnect the flask from the sampling train. Shake the flask for 5 minutes.

4.2 Sample recovery.

4.2.1 Let the flask set for a minimum of 16 hours and then shake the contents for 2 minutes. Connect the flask to a mercury filled U-tube manometer, open the valve from the flask to the manometer, and record the flask pressure and temperature along with the barometric pressure. Transfer the flask contents to a container for shipment or to a 250 ml. beaker for analysis. Rinse the flask with two portions of distilled water (approximately 10 ml.) and add rinse water to the sample. For a blank use 25 ml. of absorbing solution and the same volume of distilled water as used in rinsing the flask. Prior to shipping or analysis, add sodium hydroxide (1*N*) dropwise into both the sample and the blank until alkaline to litmus paper (about 25 to 35 drops in each).

4.3 Analysis.

4.3.1 If the sample has been shipped in a container, transfer the contents to a 250 ml. beaker using a small amount of distilled water. Evaporate the solution to dryness on a steam bath and then cool. Add 2 ml. phenoldisulfonic acid solution to the dried residue and triturate thoroughly with a glass rod. Make sure the solution contacts all the residue. Add 1 ml. distilled water and four drops of concentrated sulfuric acid. Heat the solution on a steam bath for 3 minutes with occasional stirring. Cool, add 20 ml. distilled water, mix well by stirring, and add concentrated ammonium hydroxide dropwise with constant stirring until alkaline to litmus paper. Transfer the solution to a 100 ml. volumetric flask and wash the beaker three times with 4 to 5 ml. portions of distilled water. Dilute to the mark and mix thoroughly. If the sample contains solids, transfer a portion of the solution to a clean, dry centrifuge tube, and centrifuge, or filter a portion of the solution. Measure the absorbance of each sample at 420 nm. using the blank solution as a zero. Dilute the sample and the blank with a suitable amount of distilled water if absorbance falls outside the range of calibration.

5. *Calibration.*

5.1 Flask volume. Assemble the flask and flask valve and fill with water to the stopcock. Measure the volume of water to ±10 ml. Number and record the volume on the flask.

5.2 Spectrophotometer. Add 0.0 to 16.0 ml. of standard solution to a series of beakers. To each beaker add 25 ml. of absorbing solution and add sodium hydroxide (1*N*) dropwise until alkaline to litmus paper (about 25 to 35 drops). Follow the analysis procedure of section 4.3 to collect enough data to draw a calibration curve of concentration in μg. NO_2 per sample versus absorbance.

6. *Calculations.*

6.1 Sample volume.

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[1] Trade name.

$$V_{sc}=\frac{T_{std}(V_f-V_a)}{P_{std}}\left(\frac{P_f}{T_f}-\frac{P_i}{T_i}\right)=\left(17.71\ \frac{°R}{\text{in. Hg}}\right)(V_f-25\text{ ml.})\left(\frac{P_f}{T_f}-\frac{P_i}{T_i}\right)\quad\text{Equation 7-1}$$

where:

V_{sc} = Sample volume at standard conditions (dry basis), ml.

T_{std} = Absolute temperature at standard conditions, 530° R.

P_{std} = Pressure at standard conditions, 29.92 inches Hg.

V_f = Volume of flask and valve, ml.

V_a = Volume of absorbing solution, 25 ml.

P_f = Final absolute pressure of flask, inches Hg.

P_i = Initial absolute pressure of flask, inches Hg.

T_f = Final absolute temperature of flask, °R.

T_i = Initial absolute temperature of flask, °R.

6.2 Sample concentration. Read μg. NO_2 for each sample from the plot of μg. NO_2 versus absorbance.

$$C=\left(\frac{m}{V_{sc}}\right)\left(\frac{\frac{1\text{ lb.}}{\text{cu. ft.}}}{1.6\times10^{10}\frac{\mu\text{g.}}{\text{ml.}}}\right)=\left(6.2\times10^{-11}\frac{\text{lb./s.c.f.}}{\mu\text{g./ml.}}\right)\left(\frac{m}{V_{sc}}\right)\quad\text{equation 7-2}$$

where:

C = Concentration of NO_x as NO_2 (dry basis), lb./s.c.f.

m = Mass of NO_2 in gas sample, μg.

V_{sc} = Sample volume at standard conditions (dry basis), ml.

7. *References.*

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Jacob, M. B., The Chemical Analysis of Air Pollutants, New York, N.Y., Interscience Publishers, Inc., 1960, vol. 10, p. 351-356.

METHOD 8—DETERMINATION OF SULFURIC ACID MIST AND SULFUR DIOXIDE EMISSIONS FROM STATIONARY SOURCES

1. *Principle and applicability.*

1.1 Principle. A gas sample is extracted from a sampling point in the stack and the acid mist including sulfur trioxide is separated from sulfur dioxide. Both fractions are measured separately by the barium-thorin titration method.

1.2 Applicability. This method is applicable to determination of sulfuric acid mist (including sulfur trioxide) and sulfur dioxide from stationary sources only when specified by the test procedures for determining compliance with the New Source Performance Standards.

2. *Apparatus.*

2.1 Sampling. See Figure 8-1. Many of the design specifications of this sampling train are described in APTD-0581.

2.1.1 Nozzle—Stainless steel (316) with sharp, tapered leading edge.

2.1.2 Probe—Pyrex[1] glass with a heating system to prevent visible condensation during sampling.

2.1.3 Pitot tube—Type S, or equivalent, attached to probe to monitor stack gas velocity.

2.1.4 Filter holder—Pyrex[1] glass.

2.1.5 Impingers—Four as shown in Figure 8-1. The first and third are of the Greenburg-Smith design with standard tip. The second and fourth are of the Greenburg-Smith design, modified by replacing the standard tip with a ½-inch ID glass tube extending to one-half inch from the bottom of the impinger flask. Similar collection systems, which have been approved by the Administrator, may be used.

2.1.6 Metering system—Vacuum gauge, leak-free pump, thermometers capable of measuring temperature to within 5° F., dry gas meter with 2% accuracy, and related equipment, or equivalent, as required to maintain an isokinetic sampling rate and to determine sample volume.

2.1.7 Barometer—To measure atmospheric pressure to ±0.1 inch Hg.

2.2 Sample recovery.

2.2.1 Wash bottles—Two.

2.2.2 Graduated cylinders—250 ml., 500 ml.

2.2.3 Glass sample storage containers.

2.2.4 Graduated cylinder—250 ml.

2.3 Analysis.

2.3.1 Pipette—25 ml., 100 ml.

2.3.2 Burette—50 ml.

2.3.3 Erlenmeyer flask—250 ml.

2.3.4 Graduated cylinder—100 ml.

2.3.5 Trip balance—300 g. capacity, to measure to ±0.05 g.

2.3.6 Dropping bottle—to add indicator solution.

3. *Reagents.*

3.1 Sampling.

3.1.1 Filters—Glass fiber, MSA type 1106 BH, or equivalent, of a suitable size to fit in the filter holder.

3.1.2 Silica gel—Indicating type, 6-16 mesh, dried at 175° C. (350° F.) for 2 hours.

3.1.3 Water—Deionized, distilled.

3.1.4 Isopropanol, 80%—Mix 800 ml. of isopropanol with 200 ml. of deionized, distilled water.

3.1.5 Hydrogen peroxide, 3%—Dilute 100 ml. of 30% hydrogen peroxide to 1 liter with deionized, distilled water.

3.1.6 Crushed ice.

3.2 Sample recovery.

3.2.1 Water—Deionized, distilled.

3.2.2 Isopropanol, 80%.

3.3 Analysis.

3.3.1 Water—Deionized, distilled.

3.3.2 Isopropanol.

3.3.3 Thorin indicator—1-(o-arsonophenylazo)-2-naphthol-3, 6-disulfonic acid, disodium salt (or equivalent). Dissolve 0.20 g. in 100 ml. distilled water.

3.3.4 Barium perchlorate (0.01*N*)—Dissolve 1.95 g. of barium perchlorate [$Ba(ClO_4)_2 \cdot 3H_2O$] in 200 ml. distilled water and dilute to 1 liter with isopropanol. Standardize with sulfuric acid.

3.3.5 Sulfuric acid standard (0.01*N*)—Purchase or standardize to ± 0.0002 *N* against 0.01 *N* NaOH which has previously been standardized against primary standard potassium acid phthalate.

4. *Procedure.*

4.1 Sampling.

4.1.1 After selecting the sampling site and the minimum number of sampling points, determine the stack pressure, temperature, moisture, and range of velocity head.

4.1.2 Preparation of collection train. Place 100 ml. of 80% isopropanol in the first impinger, 100 ml. of 3% hydrogen peroxide in both the second and third impingers, and about 200 g. of silica gel in the fourth impinger. Retain a portion of the reagents for use as blank solutions. Assemble the train without the probe as shown in Figure 8-1 with the filter between the first and second impingers. Leak check the sampling train at the sampling site by plugging the inlet to the first impinger and pulling a 15-inch Hg vacuum. A leakage rate not in excess of 0.02 c.f.m. at a vacuum of 15 inches Hg is acceptable. Attach the probe and turn on the probe heating system. Adjust the probe heater setting during sampling to prevent any visible condensation. Place crushed ice around the impingers. Add more ice during the run to keep the temperature of the gases leaving the last impinger at 70° F. or less.

4.1.3 Train operation. For each run, record the data required on the example sheet shown in Figure 8-2. Take readings at each sampling point at least every 5 minutes and when significant changes in stack conditions necessitate additional adjustments in flow rate. To begin sampling, position the nozzle at the first traverse point with the tip pointing directly into the gas stream. Start the pump and immediately adjust the flow to isokinetic conditions. Maintain isokinetic sampling throughout the sampling period. Nomographs are available which aid in the

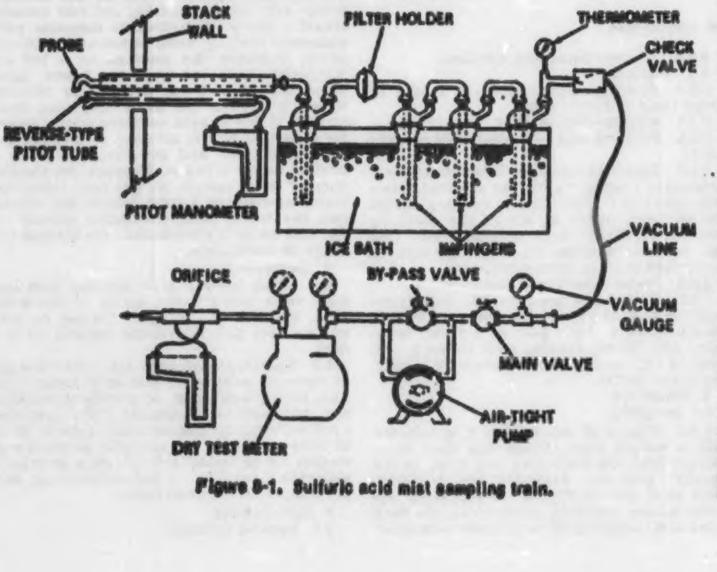

Figure 8-1. Sulfuric acid mist sampling train.

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[1] Trade name.

rapid adjustment of the sampling rate without other computations. APTD-0576 details the procedure for using these nomographs. At the conclusion of each run, turn off the pump and record the final readings. Remove the probe from the stack and disconnect it from the train. Drain the ice bath and purge the remaining part of the train by drawing clean ambient air through the system for 15 minutes.

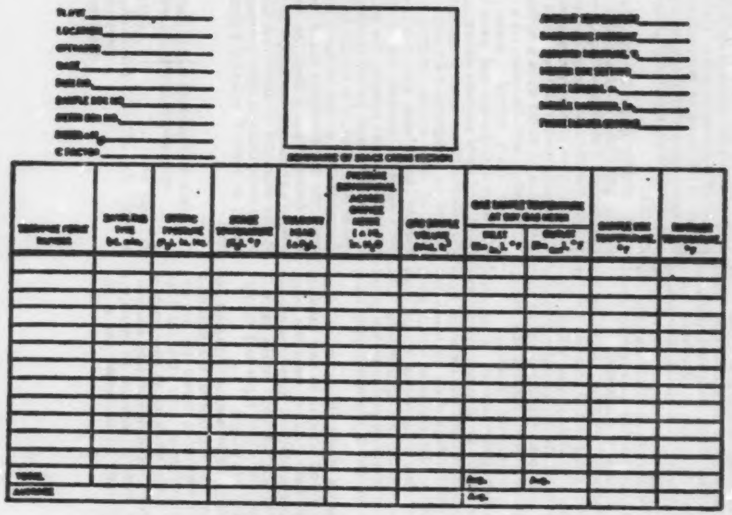

Figure 8-2. Field data.

4.2 Sample recovery.

4.2.1 Transfer the isopropanol from the first impinger to a 250 ml. graduated cylinder. Rinse the probe, first impinger, and all connecting glassware before the filter with 80% isopropanol. Add the rinse solution to the cylinder. Dilute to 250 ml. with 80% isopropanol. Add the filter to the solution, mix, and transfer to a suitable storage container. Transfer the solution from the second and third impingers to a 500 ml. graduated cylinder. Rinse all glassware between the filter and silica gel impinger with deionized, distilled water and add this rinse water to the cylinder. Dilute to a volume of 500 ml. with deionized, distilled water. Transfer the solution to a suitable storage container.

4.3 Analysis.

4.3.1 Shake the container holding isopropanol and the filter. If the filter breaks up, allow the fragments to settle for a few minutes before removing a sample. Pipette a 100 ml. aliquot of sample into a 250 ml. Erlenmeyer flask and add 2 to 4 drops of thorin indicator. Titrate the sample with barium perchlorate to a pink end point. Make sure to record volumes. Repeat the titration with a second aliquot of sample. Shake the container holding the contents of the second and third impingers. Pipette a 25 ml. aliquot of sample into a 250 ml. Erlenmeyer flask. Add 100 ml. of isopropanol and 2 to 4 drops of thorin indicator. Titrate the sample with barium perchlorate to a pink end point. Repeat the titration with a second aliquot of sample. Titrate the blanks in the same manner as the samples.

5. *Calibration.*

5.1 Use standard methods and equipment which have been approved by the Administrator to calibrate the orifice meter, pitot tube, dry gas meter, and probe heater.

5.2 Standardize the barium perchlorate with 25 ml. of standard sulfuric acid containing 100 ml. of isopropanol.

6. *Calculations.*

6.1 Dry gas volume. Correct the sample volume measured by the dry gas meter to standard conditions (70° F., 29.92 inches Hg) by using Equation 8-1.

$$V_{m_{std}}=V_m\left(\frac{T_{std}}{T_m}\right)\left(\frac{P_{bar}+\frac{\Delta H}{13.6}}{P_{std}}\right)=\left(17.71\frac{°R.}{in.\ Hg}\right)V_m\left(\frac{P_{bar}+\frac{\Delta H}{13.6}}{T_m}\right)$$

equation 8-1

where:

$V_{m_{std}}$ = Volume of gas sample through the dry gas meter (standard conditions), cu. ft.

V_m = Volume of gas sample through the dry gas meter (meter conditions), cu. ft.

T_{std} = Absolute temperature at standard conditions, 530° R.

T_m = Average dry gas meter temperature, °R.

P_{bar} = Barometric pressure at the orifice meter, inches Hg.

ΔH = Pressure drop across the orifice meter, inches H_2O.

13.6 = Specific gravity of mercury.

P_{std} = Absolute pressure at standard conditions, 29.92 inches Hg.

6.2 Sulfuric acid concentration.

$$C_{H_2SO_4}=\left(1.08\times10^{-4}\frac{lb.\text{-}l.}{g.\text{-}ml.}\right)\frac{(V_t-V_{tb})(\underline{N})\left(\frac{V_{soln}}{V_a}\right)}{V_{m_{std}}}$$

equation 8-2

$C_{H_2SO_4}$ = Concentration of sulfuric acid at standard conditions, dry basis, lb./cu. ft.

1.08×10^{-4} = Conversion factor including the number of grams per gram equivalent of sulfuric acid (49 g./g.-eq.), 453.6 g./lb., and 1,000 ml./l., lb.-l./g.-ml.

V_t = Volume of barium perchlorate titrant used for the sample, ml.

V_{tb} = Volume of barium perchlorate titrant used for the blank, ml.

N = Normality of barium perchlorate titrant, g.-eq./l.

V_{soln} = Total solution volume of sulfuric acid (first impinger and filter), ml.

V_a = Volume of sample aliquot titrated, ml.

$V_{m_{std}}$ = Volume of gas sample through the dry gas meter (standard conditions), cu. ft., see Equation 8-1.

6.3 Sulfur dioxide concentration.

$$C_{SO_2}=\left(7.05\times10^{-5}\frac{lb.\text{-}l.}{g.\text{-}ml.}\right)\frac{(V_t-V_{tb})(\underline{N})\left(\frac{V_{soln}}{V_a}\right)}{V_{m_{std}}}$$

equation 8-3

where:

C_{SO_2} = Concentration of sulfur dioxide at standard conditions, dry basis, lb./cu. ft.

7.05×10^{-5} = Conversion factor including the number of grams per gram equivalent of sulfur dioxide (32 g./g.-eq.) 453.6 g./lb., and 1,000 ml./l., lb.-l./g.-ml.

V_t = Volume of barium perchlorate titrant used for the sample, ml.

V_{tb} = Volume of barium perchlorate titrant used for the blank, ml.

N = Normality of barium perchlorate titrant, g.-eq./l.

V_{soln} = Total solution volume of sulfur dioxide (second and third impingers), ml.

V_a = Volume of sample aliquot titrated, ml.

$V_{m_{std}}$ = Volume of gas sample through the dry gas meter (standard conditions), cu. ft., see Equation 8-1.

7. *References.*

Atmospheric Emissions from Sulfuric Acid Manufacturing Processes, U.S. DHEW, PHS, Division of Air Pollution, Public Health Service Publication No. 999-AP-13, Cincinnati, Ohio, 1965.

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METHOD 9—VISUAL DETERMINATION OF THE OPACITY OF EMISSIONS FROM STATIONARY SOURCES

Many stationary sources discharge visible emissions into the atmosphere; these emissions are usually in the shape of a plume. This method involves the determination of plume opacity by qualified observers. The method includes procedures for the training and certification of observers, and procedures to be used in the field for determination of plume opacity. The appearance of a plume as viewed by an observer depends upon a number of variables, some of which may be controllable and some of which may not be controllable in the field. Variables which can be controlled to an extent to which they no longer exert a significant influence upon plume appearance include: Angle of the observer with respect to the plume; angle of the observer with respect to the sun; point of observation of attached and detached steam plume; and angle of the observer with respect to a plume emitted from a rectangular stack with a large length to width ratio. The method includes specific criteria applicable to these variables.

Other variables which may not be controllable in the field are luminescence and color contrast between the plume and the background against which the plume is viewed. These variables exert an influence upon the appearance of a plume as viewed by an observer, and can affect the ability of the observer to accurately assign opacity values to the observed plume. Studies of the theory of plume opacity and field studies have demonstrated that a plume is most visible and presents the greatest apparent opacity when viewed against a contrasting background. It follows from this, and is confirmed by field trials, that the opacity of a plume, viewed under conditions where a contrasting background is present can be assigned with the greatest degree of accuracy. However, the potential for a positive error is also the greatest when a plume is viewed under such contrasting conditions. Under conditions presenting a less contrasting background, the apparent opacity of a plume is less and approaches zero as the color and luminescence contrast decrease toward zero. As a result, significant negative bias and negative errors can be made when a plume is viewed under less contrasting conditions. A negative bias decreases rather than increases the possibility that a plant operator will be cited for a violation of opacity standards due to observer error.

Studies have been undertaken to determine the magnitude of positive errors which can be made by qualified observers while reading plumes under contrasting conditions and using the procedures set forth in this method. The results of these studies (field trials) which involve a total of 769 sets of 25 readings each are as follows:

(1) For black plumes (133 sets at a smoke generator), 100 percent of the sets were read with a positive error[1] of less than 7.5 percent opacity; 99 percent were read with a positive error of less than 5 percent opacity.

(2) For white plumes (170 sets at a smoke generator, 168 sets at a coal-fired power plant, 298 sets at a sulfuric acid plant), 99 percent of the sets were read with a positive error of less than 7.5 percent opacity; 95 percent were read with a positive error of less than 5 percent opacity.

The positive observational error associated with an average of twenty-five readings is therefore established. The accuracy of the method must be taken into account when determining possible violations of applicable opacity standards.

1. *Principle and applicability.*

1.1 Principle. The opacity of emissions from stationary sources is determined visually by a qualified observer.

1.2 Applicability. This method is applicable for the determination of the opacity of emissions from stationary sources pursuant to § 60.11(b) and for qualifying observers for visually determining opacity of emissions.

2. *Procedures.* The observer qualified in accordance with paragraph 3 of this method shall use the following procedures for visually determining the opacity of emissions:

2.1 Position. The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction, and when observing opacity of emissions from rectangular outlets (e.g. roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g. stub stacks on baghouses).

2.2 Field records. The observer shall record the name of the plant, emission location, type facility, observer's name and affiliation, and the date on a field data sheet (Figure 9–1). The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

2.3 Observations. Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume, but instead shall observe the plume momentarily at 15-second intervals.

2.3.1 Attached steam plumes. When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

2.3.2 Detached steam plume. When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

2.4 Recording observations. Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on an observational record sheet. (See Figure 9–2 for an example.) A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

2.5 Data Reduction. Opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals. Divide the observations recorded on the record sheet into sets of 24 consecutive observations. A set is composed of any 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. If an applicable standard specifies an averaging time requiring more than 24 observations, calculate the average for all observations made during the specified time period. Record the average opacity on a record sheet. (See Figure 9–1 for an example.)

3. *Qualifications and testing.*

3.1 Certification requirements. To receive certification as a qualified observer, a candidate must be tested and demonstrate the ability to assign opacity readings in 5 percent increments to [illegible] different black plumes and 25 different white plumes, with an error not to exceed 15 percent opacity on any one reading and an average error not to exceed 7.5 percent opacity in each category. Candidates shall be tested according to the procedures described in paragraph 3.2. Smoke generators used pursuant to paragraph 3.2 shall be equipped with a smoke meter which meets the requirements of paragraph 3.3.

The certification shall be valid for a period of 6 months, at which time the qualification procedure must be repeated by any observer in order to retain certification.

3.2 Certification procedure. The certification test consists of showing the candidate a complete run of 50 plumes—25 black plumes and 25 white plumes—generated by a smoke generator. Plumes within each set of 25 black and 25 white runs shall be presented in random order. The candidate assigns an opacity value to each plume and records his observation on a suitable form. At the completion of each run of 50 readings, the score of the candidate is determined. If a candidate fails to qualify, the complete run of 50 readings must be repeated in any retest. The smoke test may be administered as part of a smoke school or training program, and may be preceded by training or familiarization runs of the smoke generator during which candidates are shown black and white plumes of known opacity.

3.3 Smoke generator specifications. Any smoke generator used for the purposes of paragraph 3.2 shall be equipped with a smoke meter installed to measure opacity across the diameter of the smoke generator stack. The smoke meter output shall display in-stack opacity based upon a pathlength equal to the stack exit diameter, on a full 0 to 100 percent chart recorder scale. The smoke meter optical design and performance shall meet the specifications shown in Table 9–1. The smoke meter shall be calibrated as prescribed in paragraph 3.3.1 prior to the conduct of each smoke reading test. At the completion of each test, the zero and span drift shall be checked and if the drift exceeds ±1 percent opacity, the condition shall be corrected prior to conducting any subsequent test runs. The smoke meter shall be demonstrated, at the time of installation, to meet the specifications listed in Table 9–1. This demonstration shall be repeated following any subsequent repair or replacement of the photocell or associated electronic circuitry including the chart recorder or output meter, or every 6 months, whichever occurs first.

TABLE 9–1—SMOKE METER DESIGN AND PERFORMANCE SPECIFICATIONS

Parameter:	*Specification*
a. Light source......	Incandescent lamp operated at nominal rated voltage.

---

[1] For a set, positive error = average opacity determined by observers' 25 observations — average opacity determined from transmissometer's 25 recordings.

Parameter:	*Specification*
b. Spectral response of photocell.	Photopic (daylight spectral response of the human eye—reference 4.3).
c. Angle of view....	15° maximum total angle.
d. Angle of projection.	15° maximum total angle.
e. Calibration error.	±3% opacity, maximum.
f. Zero and span drift.	±1% opacity, 30 minutes.
g. Response time....	≤5 seconds.

3.2.1 Calibration. The smoke meter is calibrated after allowing a minimum of 30 minutes warmup by alternately producing simulated opacity of 0 percent and 100 percent. When stable response at 0 percent or 100 percent is noted, the smoke meter is adjusted to produce an output of 0 percent or 100 percent, as appropriate. This calibration shall be repeated until stable 0 percent and 100 percent readings are produced without adjustment. Simulated 0 percent and 100 percent opacity values may be produced by alternately switching the power to the light source on and off while the smoke generator is not producing smoke.

3.2.2 *Smoke meter evaluation.* The smoke meter design and performance are to be evaluated as follows:

3.2.2.1 Light source. Verify from manufacturer's data and from voltage measurements made at the lamp, as installed, that the lamp is operated within ±5 percent of the nominal rated voltage.

3.2.2.2 Spectral response of photocell. Verify from manufacturer's data that the photocell has a photopic response; i.e., the spectral sensitivity of the cell shall closely approximate the standard spectral-luminosity curve for photopic vision which is referenced in (b) of Table 9-1.

3.2.2.3 Angle of view. Check construction geometry to ensure that the total angle of view of the smoke plume, as seen by the photocell, does not exceed 15°. The total angle of view may be calculated from: $\theta=2 \tan^{-1} d/2L$, where θ=total angle of view; d=the sum of the photocell diameter+the diameter of the limiting aperture; and L=the distance from the photocell to the limiting aperture. The limiting aperture is the point in the path between the photocell and the smoke plume where the angle of view is most restricted. In smoke generator smoke meters this is normally an orifice plate.

3.2.2.4 Angle of projection. Check construction geometry to ensure that the total angle of projection of the lamp on the smoke plume does not exceed 15°. The total angle of projection may be calculated from: $\theta=2 \tan^{-1} d/2L$, where θ= total angle of projection; d= the sum of the length of the lamp filament + the diameter of the limiting aperture; and L= the distance from the lamp to the limiting aperture.

3.2.2.5 Calibration error. Using neutral-density filters of known opacity, check the error between the actual response and the theoretical linear response of the smoke meter. This check is accomplished by first calibrating the smoke meter according to 3.2.1 and then inserting a series of three neutral-density filters of nominal opacity of 20, 50, and 75 percent in the smoke meter pathlength. Filters calibrated within ±2 percent shall be used. Care should be taken when inserting the filters to prevent stray light from affecting the meter. Make a total of five nonconsecutive readings for each filter. The maximum error on any one reading shall be 3 percent opacity.

3.2.2.6 Zero and span drift. Determine the zero and span drift by calibrating and operating the smoke generator in a normal manner over a 1-hour period. The drift is measured by checking the zero and span at the end of this period.

3.2.2.7 Response time. Determine the response time by producing the series of five simulated 0 percent and 100 percent opacity values and observing the time required to reach stable response. Opacity values of 0 percent and 100 percent may be simulated by alternately switching the power to the light source off and on while the smoke generator is not operating.

4. *References.*

4.1 Air Pollution Control District Rules and Regulations, Los Angeles County Air Pollution Control District, Regulation IV, Prohibitions, Rule 50.

4.2 Weisburd, Melvin I., Field Operations and Enforcement Manual for Air, U.S. Environmental Protection Agency, Research Triangle Park, N.C., APTD-1100, August 1972, pp. 4.1–4.36.

4.3 Condon, E. U., and Odishaw, H., Handbook of Physics, McGraw-Hill Co., N.Y., N.Y., 1958, Table 3.1, p. 6–52.

FIGURE 9-1
RECORD OF VISUAL DETERMINATION OF OPACITY

PAGE___of___

COMPANY__________
LOCATION__________
TEST NUMBER__________
DATE__________
TYPE FACILITY__________
CONTROL DEVICE__________

HOURS OF OBSERVATION__________
OBSERVER__________
OBSERVER CERTIFICATION DATE__________
OBSERVER AFFILIATION__________
POINT OF EMISSIONS__________
HEIGHT OF DISCHARGE POINT__________

CLOCK TIME	Initial			Final
21 OBSERVER LOCATION Distance to Discharge				
Direction from Discharge				
Height of Observation Point				
BACKGROUND DESCRIPTION				
WEATHER CONDITIONS Wind Direction				
Wind Speed				
Ambient Temperature				
SKY CONDITIONS (clear, overcast, % clouds, etc.)				
PLUME DESCRIPTION Color				
Distance Visible				
OTHER INFORMATION				

SUMMARY OF AVERAGE OPACITY

Set Number	Time	Opacity	
	Start--End	Sum	Average

Readings ranged from ____ to ____ % opacity

The source was/was not in compliance with ____ at the time evaluation was made.

FIGURE 9-2 OBSERVATION RECORD PAGE ___ OF ___

COMPANY ____________
LOCATION ____________
TEST NUMBER ____________
DATE ____________

OBSERVER ____________
TYPE FACILITY ____________
POINT OF EMISSIONS ____________

Hr.	Min.	Seconds				STEAM PLUME (check if applicable)		COMMENTS
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
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	29							

FIGURE 9-2 OBSERVATION RECORD
(Continued)
PAGE ___ OF ___

COMPANY ____________
LOCATION ____________
TEST NUMBER ____________
DATE ____________

OBSERVER ____________
TYPE FACILITY ____________
POINT OF EMISSIONS ____________

Hr.	Min.	Seconds				STEAM PLUME (check if applicable)		COMMENTS
		0	15	30	45	Attached	Detached	
	30							
	31							
	32							
	33							
	34							
	35							
	36							
	37							
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[FR Doc.74-26180 Filed 11-11-74;8:45 am]

METHOD 10—DETERMINATION OF CARBON MONOXIDE EMISSIONS FROM STATIONARY SOURCES

1. *Principle and Applicability.*

1.1 *Principle.* An integrated or continuous gas sample is extracted from a sampling point and analyzed for carbon monoxide (CO) content using a Luft-type nondispersive infrared analyzer (NDIR) or equivalent.

1.2 *Applicability.* This method is applicable for the determination of carbon monoxide emissions from stationary sources only when specified by the test procedures for determining compliance with new source performance standards. The test procedure will indicate whether a continuous or an integrated sample is to be used.

2. *Range and sensitivity.*

2.1 *Range.* 0 to 1,000 ppm.

2.2 *Sensitivity.* Minimum detectable concentration is 20 ppm for a 0 to 1,000 ppm span.

3. *Interferences.* Any substance having a strong absorption of infrared energy will interfere to some extent. For example, discrimination ratios for water (H_2O) and carbon dioxide (CO_2) are 3.5 percent H_2O per 7 ppm CO and 10 percent CO_2 per 10 ppm CO, respectively, for devices measuring in the 1,500 to 3,000 ppm range. For devices measuring in the 0 to 100 ppm range, interference ratios can be as high as 3.5 percent H_2O per 25 ppm CO and 10 percent CO_2 per 50 ppm CO. The use of silica gel and ascarite traps will alleviate the major interference problems. The measured gas volume must be corrected if these traps are used.

4. *Precision and accuracy.*

4.1 *Precision.* The precision of most NDIR analyzers is approximately ±2 percent of span.

4.2 *Accuracy.* The accuracy of most NDIR analyzers is approximately ±5 percent of span after calibration.

5. *Apparatus.*

5.1 *Continuous sample* (Figure 10–1).

5.1.1 *Probe.* Stainless steel or sheathed Pyrex[1] glass, equipped with a filter to remove particulate matter.

5.1.2 *Air-cooled condenser or equivalent.* To remove any excess moisture.

5.2 *Integrated sample* (Figure 10–2).

5.2.1 *Probe.* Stainless steel or sheathed Pyrex glass, equipped with a filter to remove particulate matter.

5.2.2 *Air-cooled condenser or equivalent.* To remove any excess moisture.

5.2.3 *Valve.* Needle valve, or equivalent, to to adjust flow rate.

5.2.4 *Pump.* Leak-free diaphragm type, or equivalent, to transport gas.

5.2.5 *Rate meter.* Rotameter, or equivalent, to measure a flow range from 0 to 1.0 liter per min. (0.035 cfm).

5.2.6 *Flexible bag.* Tedlar, or equivalent, with a capacity of 60 to 90 liters (2 to 3 ft³). Leak-test the bag in the laboratory before using by evacuating bag with a pump followed by a dry gas meter. When evacuation is complete, there should be no flow through the meter.

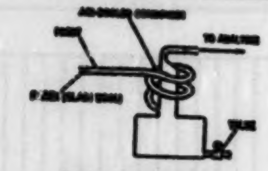

Figure 10-1. Continuous sampling train.

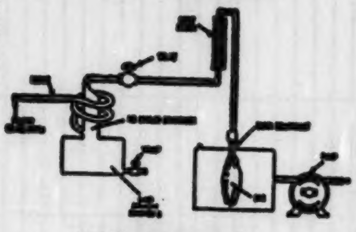

Figure 10-2. Integrated gas-sampling train.

5.2.7 *Pitot tube.* Type S, or equivalent, attached to the probe so that the sampling rate can be regulated proportional to the stack gas velocity when velocity is varying with the time or a sample traverse is conducted.

5.3 *Analysis* (Figure 10–3).

5.3.1 *Carbon monoxide analyzer.* Nondispersive infrared spectrometer, or equivalent. This instrument should be demonstrated, preferably by the manufacturer, to meet or exceed manufacturer's specifications and those described in this method.

5.3.2 *Drying tube.* To contain approximately 200 g of silica gel.

5.3.3 *Calibration gas.* Refer to paragraph 6.1.

5.3.4 *Filter.* As recommended by NDIR manufacturer.

5.3.5 CO_2 *removal tube.* To contain approximately 500 g of ascarite.

5.3.6 *Ice water bath.* For ascarite and silica gel tubes.

5.3.7 *Valve.* Needle valve, or equivalent, to adjust flow rate

5.3.8 *Rate meter.* Rotameter or equivalent to measure gas flow rate of 0 to 1.0 liter per min. (0.035 cfm) through NDIR.

5.3.9 *Recorder* (optional). To provide permanent record of NDIR readings.

6. *Reagents.*

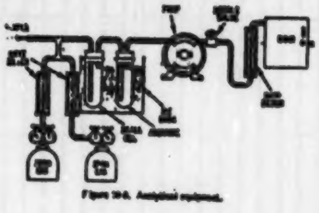

Figure 10-3. Analytical equipment.

6.1 *Calibration gases.* Known concentration of CO in nitrogen (N_2) for instrument span, prepurified grade of N_2 for zero, and two additional concentrations corresponding approximately to 60 percent and 30 percent span. The span concentration shall not exceed 1.5 times the applicable source performance standard. The calibration gases shall be certified by the manufacturer to be within ±2 percent of the specified concentration.

6.2 *Silica gel.* Indicating type, 6 to 16 mesh, dried at 175° C (347° F) for 2 hours.

6.3 *Ascarite.* Commercially available.

7. *Procedure.*

7.1 *Sampling.*

7.1.1 *Continuous sampling.* Set up the equipment as shown in Figure 10–1 making sure all connections are leak free. Place the probe in the stack at a sampling point and purge the sampling line. Connect the analyzer and begin drawing sample into the analyzer. Allow 5 minutes for the system to stabilize, then record the analyzer reading as required by the test procedure. (See ¶ 7.2 and 8). CO_2 content of the gas may be determined by using the Method 3 integrated sample procedure (36 FR 24886), or by weighing the ascarite CO_2 removal tube and computing CO_2 concentration from the gas volume sampled and the weight gain of the tube.

7.1.2 *Integrated sampling.* Evacuate the flexible bag. Set up the equipment as shown in Figure 10–2 with the bag disconnected. Place the probe in the stack and purge the sampling line. Connect the bag, making sure that all connections are leak free. Sample at a rate proportional to the stack velocity. CO_2 content of the gas may be determined by using the Method 3 integrated sample procedures (36 FR 24886), or by weighing the ascarite CO_2 removal tube and computing CO_2 concentration from the gas volume sampled and the weight gain of the tube.

7.2 *CO Analysis.* Assemble the apparatus as shown in Figure 10–3, calibrate the instrument, and perform other required operations as described in paragraph 8. Purge analyzer with N_2 prior to introduction of each sample. Direct the sample stream through the instrument for the test period, recording the readings. Check the zero and span again after the test to assure that any drift or malfunction is detected. Record the sample data on Table 10–1.

8. *Calibration.* Assemble the apparatus according to Figure 10–3. Generally an instrument requires a warm-up period before stability is obtained. Follow the manufacturer's instructions for specific procedure. Allow a minimum time of one hour for warm-up. During this time check the sample conditioning apparatus, i.e., filter, condenser, drying tube, and CO_2 removal tube, to ensure that each component is in good operating condition. Zero and calibrate the instrument according to the manufacturer's procedures using, respectively, nitrogen and the calibration gases.

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[1] Mention of trade names or specific products does not constitute endorsement by the Environmental Protection Agency.

TABLE 10-1.—*Field data*

Location ____________________ Comments:
Test ____________________
Date ____________________
Operator ____________________

Clock time	*Rotameter setting, liters per minute (cubic feet per minute)*

9. *Calculation—Concentration of carbon monoxide.* Calculate the concentration of carbon monoxide in the stack using equation 10-1.

$$C_{CO_{stack}} = C_{CO_{NDIR}}(1 - F_{CO_2}) \qquad \text{equation 10-1}$$

where:

$C_{CO_{stack}}$ = concentration of CO in stack, ppm by volume (dry basis).

$C_{CO_{NDIR}}$ = concentration of CO measured by NDIR analyzer, ppm by volume (dry basis).

F_{CO_2} = volume fraction of CO_2 in sample, i.e., percent CO_2 from Orsat analysis divided by 100.

[39 FR 13776, April 17, 1974]

10. Bibliography.

10.1 McElroy, Frank, The Intertech NDIR-CO Analyzer, Presented at 11th Methods Conference on Air Pollution, University of California, Berkeley, Calif., April 1, 1970.

10.2 Jacobs, M. B., et al., Continuous Determination of Carbon Monoxide and Hydrocarbons in Air by a Modified Infrared Analyzer, J. Air Pollution Control Association, 9(2):110-114, August 1959.

10.3 MSA LIRA Infrared Gas and Liquid Analyzer Instruction Book, Mine Safety Appliances Co., Technical Products Division, Pittsburgh, Pa.

10.4 Models 215A, 315A, and 415A Infrared Analyzers, Beckman Instruments, Inc., Beckman Instructions 1635-B, Fullerton, Calif., October 1967.

10.5 Continuous CO Monitoring System, Model A5611, Intertech Corp., Princeton, N.J.

10.6 UNOR Infrared Gas Analyzers, Bendix Corp., Ronceverte, West Virginia.

ADDENDA

A. Performance Specifications for NDIR Carbon Monoxide Analyzers.

Range (minimum)	0-1000ppm.
Output (minimum)	0-10mV.
Minimum detectable sensitivity	20 ppm.
Rise time, 90 percent (maximum)	30 seconds.
Fall time, 90 percent (maximum)	30 seconds.
Zero drift (maximum)	10% in 8 hours.
Span drift (maximum)	10% in 8 hours.
Precision (minimum)	± 2% of full scale.
Noise (maximum)	± 1% of full scale.
Linearity (maximum deviation)	2% of full scale.
Interference rejection ratio	CO_2—1000 to 1, H_2O—500 to 1.

2. *Definitions of Performance Specifications.*

Range—The minimum and maximum measurement limits.

Output—Electrical signal which is proportional to the measurement; intended for connection to readout or data processing devices. Usually expressed as millivolts or milliamps full scale at a given impedance.

Full scale—The maximum measuring limit for a given range.

Minimum detectable sensitivity—The smallest amount of input concentration that can be detected as the concentration approaches zero.

Accuracy—The degree of agreement between a measured value and the true value; usually expressed as ± percent of full scale.

Time to 90 percent response—The time interval from a step change in the input concentration at the instrument inlet to a reading of 90 percent of the ultimate recorded concentration.

Rise Time (90 percent)—The interval between initial response time and time to 90 percent response after a step increase in the inlet concentration.

Fall Time (90 percent)—The interval between initial response time and time to 90 percent response after a step decrease in the inlet concentration.

Zero Drift—The change in instrument output over a stated time period, usually 24 hours, of unadjusted continuous operation when the input concentration is zero; usually expressed as percent full scale.

Span Drift—The change in instrument output over a stated time period, usually 24 hours, of unadjusted continuous operation when the input concentration is a stated upscale value; usually expressed as percent full scale.

Precision—The degree of agreement between repeated measurements of the same concentration, expressed as the average deviation of the single results from the mean.

Noise—Spontaneous deviations from a mean output not caused by input concentration changes.

Linearity—The maximum deviation between an actual instrument reading and the reading predicted by a straight line drawn between upper and lower calibration points.

METHOD 11—DETERMINATION OF HYDROGEN SULFIDE EMISSIONS FROM STATIONARY SOURCES

1. *Principle and applicability.*

1.1 *Principle.* Hydrogen sulfide (H_2S) is collected from the source in a series of midget impingers and reacted with alkaline cadmium hydroxide [$Cd(OH)_2$] to form cadmium sulfide (CdS). The precipitated CdS is then dissolved in hydrochloric acid and absorbed in a known volume of iodine solution. The iodine consumed is a measure of the H_2S content of the gas. An impinger containing hydrogen peroxide is included to remove SO_2 as an interfering species.

1.2 *Applicability.* This method is applicable for the determination of hydrogen sulfide emissions from stationary sources only when specified by the test procedures for determining compliance with the new source performance standards.

2. *Apparatus.*

2.1 *Sampling train.*

2.1.1 *Sampling line*—6- to 7-mm (¼-inch) Teflon[1] tubing to connect sampling train to sampling valve, with provisions for heating to prevent condensation. A pressure reducing valve prior to the Teflon sampling line may be required depending on sampling stream pressure.

2.1.2 *Impingers*—Five midget impingers, each with 30-ml capacity, or equivalent.

2.1.3 *Ice bath container*—To maintain absorbing solution at a constant temperature.

2.1.4 *Silica gel drying tube*—To protect pump and dry gas meter.

2.1.5 *Needle valve, or equivalent*—Stainless steel or other corrosion resistant material, to adjust gas flow rate.

2.1.6 *Pump*—Leak free, diaphragm type, or equivalent, to transport gas. (Not required if sampling stream under positive pressure.)

2.1.7 *Dry gas meter*—Sufficiently accurate to measure sample volume to within 1 percent.

2.1.8 *Rate meter*—Rotameter, or equivalent, to measure a flow rate of 0 to 3 liters per minute (0.1 ft^3/min).

2.1.9 *Graduated cylinder*—25 ml.

2.1.10 *Barometer*—To measure atmospheric pressure within ±2.5 mm (0.1 in.) Hg.

2.2 *Sample Recovery.*

2.2.1 *Sample container*—500-ml glass-stoppered iodine flask.

2.2.2 *Pipette*—50-ml volumetric type.

2.2.3 *Beakers*—250 ml.

2.2.4 *Wash bottle*—Glass.

2.3 *Analysis.*

2.3.1 *Flask*—500-ml glass-stoppered iodine flask.

2.3.2 *Burette*—One 50 ml.

2.3.3 *Flask*—125-ml conical.

3. *Reagents.*

3.1 *Sampling.*

3.1.1 *Absorbing solution*—Cadmium hydroxide ($Cd(OH)_2$)—Mix 4.3 g cadmium sulfate hydrate ($3\ CdSO_4 \cdot 8H_2O$) and 0.3 g of sodium hydroxide (NaOH) in 1 liter of distilled water (H_2O). Mix well.

Note: The cadmium hydroxide formed in this mixture will precipitate as a white suspension. Therefore, this solution must be thoroughly mixed before using to ensure an even distribution of the cadmium hydroxide.

3.1.2 *Hydrogen peroxide, 3 percent*—Dilute 30 percent hydrogen peroxide to 3 percent as needed. Prepare fresh daily.

3.2 *Sample recovery.*

3.2.1 *Hydrochloric acid solution (HCl), 10 percent by weight*—Mix 230 ml of concentrated HCl (specific gravity 1.19) and 770 ml of distilled H_2O.

3.2.2 *Iodine solution, 0.1 N*—Dissolve 24 g potassium iodide (KI) in 30 ml of distilled H_2O in a 1-liter graduated cylinder. Weigh 12.7 g of resublimed iodine (I_2) into a weighing bottle and add to the potassium iodide solution. Shake the mixture until the iodine is completely dissolved. Slowly dilute the solution to 1 liter with distilled H_2O, with swirling. Filter the solution, if cloudy, and store in a brown glass-stoppered bottle.

3.2.3 *Standard iodine solution, 0.01 N*—Dilute 100 ml of the 0.1 *N* iodine solution in a volumetric flask to 1 liter with distilled water.

Standardize daily as follows: Pipette 25 ml of the 0.01 *N* iodine solution into a 125-ml conical flask. Titrate with standard 0.01 *N* thiosulfate solution (see paragraph 3.3.2) until the solution is a light yellow. Add a few drops of the starch solution and continue titrating until the blue color just disappears. From the results of this titration, calculate the exact normality of the iodine solution (see paragraph 5.1).

3.2.4 *Distilled, deionized water.*

3.3 *Analysis.*

3.3.1 *Sodium thiosulfate solution, standard 0.1 N*—For each liter of solution, dissolve 24.8 g of sodium thiosulfate ($NA_2S_2O_3 \cdot 5H_2O$) in distilled water and add 0.01 g of anhydrous sodium carbonate (Na_2CO_3) and 0.4 ml of chloroform ($CHCl_3$) to stabilize. Mix thoroughly by shaking or by aerating with nitrogen for approximately 15 minutes, and store in a glass-stoppered glass bottle.

Standardize frequently as follows: Weigh into a 500-ml volumetric flask about 2 g of potassium dichromate ($K_2Cr_2O_7$) weighed to the nearest milligram and dilute to the 500-ml mark with distilled H_2O. Use dichromate which has been crystallized from distilled water and oven-dried at 182°C to 199°C (360°F to 390°F). Dissolve approximately 3 g of potassium iodide (KI) in 50 ml of distilled water in a glass-stoppered, 500-ml conical flask, then add 5 ml of 20-percent hydrochloric acid solution. Pipette 50 ml of the dichromate solution into this mixture. Gently swirl the solution once and allow it to stand in the dark for 5 minutes. Dilute the solution with 100 to 200 ml of distilled water, washing down the sides of the flask with part of the water. Swirl the solution slowly and titrate with the thiosulfate solution until the solution is light yellow. Add 4 ml of starch solution and continue with a slow titration with the thiosulfate until the bright blue color has disappeared and only the pale green color of the chromic ion remains. From this titration, calculate the exact normality of the sodium thiosulfate solution (see paragraph 5.2).

[39 FR 13776, April 17, 1974]

3.3.2 *Sodium thiosulfate solution, standard 0.01 N*—Pipette 100 ml of the standard 0.1 *N* thiosulfate solution into a volumetric flask and dilute to one liter with distilled water.

3.3.3 *Starch indicator solution*—Suspend 10 g of soluble starch in 100 ml of distilled water and add 15 g of potassium hydroxide pellets. Stir until dissolved, dilute with 900 ml of distilled water, and let stand 1 hour. Neutralize the alkali with concentrated hydrochloric acid, using an indicator paper similar to Alkacid test ribbon, then add 2 ml of glacial acetic acid as a preservative.

Test for decomposition by titrating 4 ml of starch solution in 200 ml of distilled water with 0.01 *N* iodine solution. If more than 4 drops of the 0.01 *N* iodine solution are required to obtain the blue color, make up a fresh starch solution.

4. *Procedure.*

4.1 *Sampling.*

4.1.1 Assemble the sampling train as shown in Figure 11–1, connecting the five midget impingers in series. Place 15 ml of 3 percent hydrogen peroxide in the first impinger. Place 15 ml of the absorbing solution in each of the next three impingers, leaving the fifth dry. Place crushed ice around the impingers. Add more ice during the run to keep the temperature of the gases leaving the last impinger at about 20°C (70°F), or less.

4.1.2 Purge the connecting line between the sampling valve and the first impinger. Connect the sample line to the train. Record the initial reading on the dry gas meter as shown in Table 11–1.

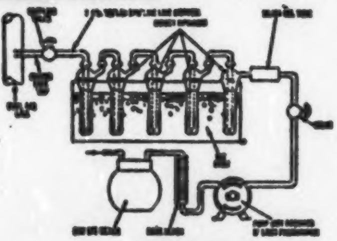

Figure 11-1. H_2S sampling train.

TABLE 11–1.—*Field data*

Location .... Comments:

Test ....

Date ....

Operator ....

Barometric pressure..

Clock time	Gas volume through meter (V_m), liters (cubic feet)	Rotameter setting, Lpm (cubic feet per minute)	Meter temperature, ° C (° F)

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[1] Mention of trade names or specific products does not constitute endorsement by the Environmental Protection Agency.

4.1.3 Open the flow control valve and adjust the sampling rate to 1.13 liters per minute (0.04 cfm). Read the meter temperature and record on Table 11-1.

4.1.4 Continue sampling a minimum of 10 minutes. If the yellow color of cadmium sulfide is visible in the third impinger, analysis should confirm that the applicable standard has been exceeded. At the end of the sample time, close the flow control valve and read the final meter volume and temperature.

4.1.5 Disconnect the impinger train from the sampling line. Purge the train with clean ambient air for 15 minutes to ensure that all H_2S is removed from the hydrogen peroxide. Cap the open ends and move to the sample clean-up area.

4.2 *Sample recovery.*

4.2.1 Pipette 50 ml of 0.01 *N* iodine solution into a 250-ml beaker. Add 50 ml of 10 percent HCl to the solution. Mix well.

4.2.2 Discard the contents of the hydrogen peroxide impinger. Carefully transfer the contents of the remaining four impingers to a 500-ml iodine flask.

4.2.3 Rinse the four absorbing impingers and connecting glassware with three portions of the acidified iodine solution. Use the entire 100 ml of acidified iodine for this purpose. Immediately after pouring the acidified iodine into an impinger, stopper it and shake for a few moments before transferring the rinse to the iodine flask. Do not transfer any rinse portion from one impinger to another; transfer it directly to the iodine flask. Once acidified iodine solution has been poured into any glassware containing cadmium sulfide sample, the container must be tightly stoppered at all times except when adding more solution, and this must be done as quickly and carefully as possible. After adding any acidified iodine solution to the iodine flask, allow a few minutes for absorption of the H_2S into the iodine before adding any further rinses.

4.2.4 Follow this rinse with two more rinses using distilled water. Add the distilled water rinses to the iodine flask. Stopper the flask and shake well. Allow about 30 minutes for absorption of the H_2S into the iodine, then complete the analysis titration.

Caution: Keep the iodine flask stoppered except when adding sample or titrant.

4.2.5 Prepare a blank in an iodine flask using 45 ml of the absorbing solution, 50 ml of 0.01 *N* iodine solution, and 50 ml of 10 percent HCl. Stopper the flask, shake well and analyze with the samples.

4.3 *Analysis.*

Note: This analysis titration should be conducted at the sampling location in order to prevent loss of iodine from the sample. Titration should never be made in direct sunlight.

4.3.1 Titrate the solution in the flask with 0.01 *N* sodium thiosulfate solution until the solution is light yellow. Add 4 ml of the starch indicator solution and continue titrating until the blue color just disappears.

4.3.2 Titrate the blanks in the same manner as the samples.

[39 FR 13776, April 17, 1974]

5. *Calculations.*

5.1 *Normality of the standard iodine solution.*

$$N_I = \frac{N_T V_T}{V_I} \qquad \text{equation 11-1}$$

where:

N_I = normality of iodine, g-eq/liter.
V_I = volume of iodine used, ml.
N_T = normality of sodium thiosulfate, g-eq/liter.
V_T = volume of sodium thiosulfate used, ml.

5.2 *Normality of the standard thiosulfate solution.*

[39 FR 13776, April 17, 1974]

$$N_T = 2.04 \frac{W}{V_T} \qquad \text{equation 11-2}$$

where:

W = weight of $K_2Cr_2O_7$ used, g.
V_T = volume of $Na_2S_2O_3$ used, ml.
N_T = normality of standard thiosulfate solution, g-eq/liter.
2.04 = conversion factor

$$= \frac{(6 \text{ eq } I_2/\text{mole } K_2Cr_2O_7)\ (1{,}000 \text{ ml/l})}{(294.2 \text{ g } K_2Cr_2O_7/\text{mole})\ (10 \text{ aliquot factor})}.$$

5.3 *Dry gas volume.* Correct the sample volume measured by the dry gas meter to standard conditions [21°C(70°F)] and 760 mm (29.92 inches) Hg] by using equation 11-3.

$$V_{m_{std}} = V_m \left(\frac{T_{std}}{T_m}\right)\left(\frac{P_{bar}}{P_{std}}\right) \qquad \text{equation 11-3}$$

where:

$V_{m_{std}}$ = volume at standard conditions of gas sample through the dry gas meter, standard liters (scf).
V_m = volume of gas sample through the dry gas meter (meter conditions), liters (cu. ft.).
T_{std} = absolute temperature at standard conditions, 294°K (530°R).
T_m = average dry gas meter temperature, °K (°R).
P_{bar} = barometric pressure at the orifice meter, mm Hg (in. Hg).
P_{std} = absolute pressure at standard conditions, 760 mm Hg (29.92 in. Hg).

5.4 *Concentration of H_2S.*—Calculate the concentration of H_2S in the gas stream at standard conditions using equation 11-4:

$$C_{H_2S} = \frac{K[(V_I N_I - V_T N_T)_{sample} - (V_I N_I - V_T N_T)_{blank}]}{V_{m_{std}}}$$

where (metric units):

C_{H_2S} = concentration of H_2S at standard conditions, mg/dscm
K = conversion factor = 17.0×10^3

$$= \frac{(34.07 \text{ g/mole } H_2S)(1{,}000 \text{ l/m}^3)(1{,}000 \text{ mg/g})}{(1{,}000 \text{ ml/l})(2H_2S \text{ eq/mole})}$$

V_I = volume of standard iodine solution, ml.
N_I = normality of standard iodine solution, g-eq/liter.
V_T = volume of standard sodium thiosulfate solution, ml.
N_T = normality of standard sodium thiosulfate solution, g-eq/liter.
$V_{m_{std}}$ = dry gas volume at standard conditions, liters.

where (English units):

$$K = 0.263 = \frac{17.0(15.43 \text{ gr/g})}{(1{,}000 \text{ l/m}^3)}$$

$V_{m_{std}}$ = scf.
C_{H_2S} = gr/dscf.

[39 FR 13776, April 17, 1974]

6. *References.*

6.1 Determination of Hydrogen Sulfide, Ammoniacal Cadmium Chloride Method, API Method 772-54. In: Manual on Disposal of Refinery Wastes, Vol. V: Sampling and Analysis of Waste Gases and Particulate Matter, American Petroleum Institute, Washington, D.C., 1954.

6.2 Tentative Method for Determination of Hydrogen Sulfide and Mercaptan Sulfur in Natural Gas, Natural Gas Processors Association, Tulsa, Oklahoma, NGPA Publication No. 2265-65, 1965.

APPENDIX C - 1

SOURCE SAMPLING FIELD DATA SHEETS

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company **CREW** RJP, GMS

Sampling Station Coke Battery A Scrubber Inlet **Date** 7/30/74 **Time** 10:05

Test No. Prelim.Traverse-1 **Pitot Tube No.** ____ **Manometer No.** ____

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
B-1	0.89	80	63.6	B-11	1.2	80	73.8
B-2	1	80	67.4	B-12	1.3	80	76.8
B-3	1.05	80	69.1	B-13	1.5	80	82.5
B-4	1.2	80	73.8	B-14	1.3	80	76.8
B-5	1.2	80	73.8	B-15	1.5	80	82.5
B-6	1.3	80	76.8	B-16	1.5	80	82.5
B-7	1.4	80	79.7	B-17	1.6	80	85.2
B-8	1.4	80	79.7	B-18	1.6	80	85.2
B-9	1.5	80	82.5	B-19	1.5	80	82.5
B-10	1.2	80	73.8	B-20	1.4	80	79.7

Stack Wet Bulb Temperature, (°F) ____ **Stack Dimensions** 66" I.D.

A. Barometric Pressure, (In.Hg) 29.85

B. Static Pressure of Stack Gases, (In.H_2O) -3.7

C. Pitot Tube Correction Factor (0.84)

D. Specific Gravity of Stack Gases Relative to Dry Air (1.0)

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 29.58

F. Average Uncorrected Velocity, (ft/sec) 77.4 **or 60 * F, (ft/min)** 4644

G. Corrected Velocity = F * C $\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$**, (ft/min)** 3923

H. Area of Stack, (ft^2) 23.76

I. Actual Gas Flow Rate = G * H, (ACFM) 93204

J. Average Stack Temperature, (°F) 80

K. Standard Gas Flow Rate = I * $\left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$**, (SCFM)** 90097

where T_{std} = standard temperature, 68 **°F Dry SCFM** 89800

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company CREW RJP, GMS

Sampling Station Coke Battery A Scrubber Inlet Date 7-30-74 Time 10:05

Test No. Prelim. Traverse-1 (Cont.) Pitot Tube No. ____ Manometer No. ____

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
T-1	1.2	80	73.8	T-11	1.2	80	73.8
T-2	1.0	80	67.4	T-12	1.4	80	79.7
T-3	1.2	80	73.8	T-13	1.4	80	79.7
T-4	1.1	80	70.7	T-14	1.3	80	76.8
T-5	1.2	80	73.8	T-15	1.5	80	82.5
T-6	1.3	80	76.8	T-16	1.6	80	85.2
T-7	1.3	80	76.8	T-17	1.6	80	85.2
T-8	1.4	80	79.7	T-18	1.4	80	79.7
T-9	1.4	80	79.7	T-19	1.5	80	82.5
T-10	1.3	80	76.8	T-20	1.2	80	73.8

Stack Wet Bulb Temperature, (°F) ____ Stack Dimensions ____

A. Barometric Pressure, (In.Hg) ____

B. Static Pressure of Stack Gases, (In.H_2O) ____

C. Pitot Tube Correction Factor ____

D. Specific Gravity of Stack Gases Relative to Dry Air ____

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) ____

F. Average Uncorrected Velocity, (ft/sec) ____ or 60 * F, (ft/min) ____

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) ____

H. Area of Stack, (ft^2) ____

I. Actual Gas Flow Rate = G * H, (ACFM) ____

J. Average Stack Temperature, (°F) ____

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) ____

where T_{std} = standard temperature, ____ °F

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company CREW RJP, RJG

Sampling Station Coke Battery A Scrubber Inlet Date 1-11-75 Time 11:10

Test No. Prelim. Traverse-2 Pitot Tube No. 18 Manometer No. ________

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
B-1	1.81	58	88.8	B-13	1.76	58	87.6
B-2	2.06	58	94.7	B-14	1.86	58	90.0
B-3	1.56	58	82.4	B-15	1.61	58	83.7
B-4	1.01	58	66.3	B-16	1.36	58	77.0
B-5	0.96	58	64.7	B-17	1.16	58	71.1
B-6	1.19	58	72.0	B-18	1.16	58	71.1
B-7	1.66	58	85.0				
B-8	1.61	58	83.7				
B-9	1.51	58	81.1				
B-10	1.56	58	82.4				
B-11	1.66	58	85.0				
B-12	1.71	58	86.3				

Stack Wet Bulb Temperature, (°F) ________ Stack Dimensions 66" I.D.

A. Barometric Pressure, (In.Hg) 28.9

B. Static Pressure of Stack Gases, (In.H_2O) -3.7

C. Pitot Tube Correction Factor 0.84

D. Specific Gravity of Stack Gases Relative to Dry Air 1.0

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 28.63

F. Average Uncorrected Velocity, (ft/sec) 78.4 or 60 * F, (ft/min) 4706

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 4041

H. Area of Stack, (ft^2) 23.8

I. Actual Gas Flow Rate = G * H, (ACFM) 96179

J. Average Stack Temperature, (°F) 34

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 98366

where T_{std} = standard temperature, 68 °F Dry SCFM 98100

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company **CREW** RJP, RJG

Sampling Station Coke Battery A Scrubber Inlet **Date** 1-11-75 **Time** 11:10

Test No. Prelim. Traverse 2 (Cont) **Pitot Tube No.** 18 **Manometer No.** NA

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
T-1	2.18	10	92.8	T-13	1.48	10	76.5
T-2	2.08	10	90.7	T-14	1.68	10	81.5
T-3	1.28	10	71.1	T-15	1.38	10	73.9
T-4	1.08	10	65.3	T-16	1.38	10	73.9
T-5	1.28	10	71.1	T-17	1.38	10	73.9
T-6	1.38	10	73.9	T-18	1.33	10	72.5
T-7	1.43	10	75.2				
T-8	1.38	10	73.9				
T-9	1.53	10	77.8				
T-10	1.38	10	73.9				
T-11	1.48	10	76.5				
T-12	1.48	10	76.5				

Stack Wet Bulb Temperature, (°F) ______ Stack Dimensions ______

A. Barometric Pressure, (In.Hg) ______

B. Static Pressure of Stack Gases, (In.H_2O) ______

C. Pitot Tube Correction Factor ______

D. Specific Gravity of Stack Gases Relative to Dry Air ______

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) ______

F. Average Uncorrected Velocity, (ft/sec) ______ or 60 * F, (ft/min) ______

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) ______

H. Area of Stack, (ft^2) ______

I. Actual Gas Flow Rate = C * H, (ACFM) ______

J. Average Stack Temperature, (°F) ______

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) ______

where T_{std} = standard temperature, ______ °F

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company CREW RJP, MRD
Sampling Station Coke Battery A Scrubber Inlet Date 1-16-75 Time 14:00
Test No. Prelim. Traverse-3 Pitot Tube No. 18 Manometer No.

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
B-1	1.30	60	75.4	B-13	1.65	60	84.9
B-2	1.30	60	75.4	B-14	1.70	60	86.2
B-3	1.10	60	69.4	B-15	1.80	60	88.7
B-4	1.25	60	73.9	B-16	1.50	60	81.0
B-5	1.10	60	69.4	B-17	1.40	60	78.2
B-6	1.50	60	81.0	B-18	1.50	60	81.0
B-7	1.45	60	79.6				
B-8	1.25	60	73.9				
B-9	1.30	60	75.4				
B-10	1.40	60	78.2				
B-11	1.57	60	82.9				
B-12	1.50	60	81.0				

Stack Wet Bulb Temperature, (°F) Stack Dimensions 66" I.D.

A. Barometric Pressure, (In.Hg) 30.0

B. Static Pressure of Stack Gases, (In.H_2O) -4.2

C. Pitot Tube Correction Factor 0.84

D. Specific Gravity of Stack Gases Relative to Dry Air 1.0

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 29.69

F. Average Uncorrected Velocity, (ft/sec) 78.7 or 60 * F, (ft/min) 4724

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 3983

H. Area of Stack, (ft^2) 23.76

I. Actual Gas Flow Rate = G * H, (ACFM) 94807

J. Average Stack Temperature, (°F) 40

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 99347

where T_{std} = standard temperature, 68 °F Dry SCFM 99000

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company CREW RJP, MRD
Sampling Station Coke Battery A Scrubber Inlet Date 1-16-75 Time 14:00
Test No. Prelim.Traverse-3(Cont) Pitot Tube No. 18 Manometer No. ______

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
T-1	2.70	20	104	T-13	1.70	20	82.8
T-2	1.80	20	85.2	T-14	1.50	20	77.8
T-3	1.20	20	69.6	T-15	1.50	20	77.8
T-4	1.30	20	72.4	T-16	1.50	20	77.8
T-5	1.60	20	80.4	T-17	1.50	20	77.8
T-6	1.50	20	77.8	T-18	1.40	20	75.2
T-7	1.50	20	77.8				
T-8	1.50	20	77.8				
T-9	1.50	20	77.8				
T-10	1.40	20	75.2				
T-11	1.45	20	76.5				
T-12	1.40	20	75.2				

Stack Wet Bulb Temperature, (°F) ______ Stack Dimensions ______

A. Barometric Pressure, (In.Hg) ______

B. Static Pressure of Stack Gases, (In.H_2O) ______

C. Pitot Tube Correction Factor ______

D. Specific Gravity of Stack Gases Relative to Dry Air ______

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) ______

F. Average Uncorrected Velocity, (ft/sec) ______ or 60 * F, (ft/min) ______

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) ______

H. Area of Stack, (ft^2) ______

I. Actual Gas Flow Rate = G * H, (ACFM) ______

J. Average Stack Temperature, (°F) ______

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) ______

where T_{std} = standard temperature, ______ °F

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company CREW RCM

Sampling Station Coke Battery 4 Scrubber Inlet Date 2-6-75 Time 15:00

Test No. Prelim.Traverse-4 Pitot Tube No. 18 Manometer No.

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
1	0.60	36*	50.0	16	0.74	36*	55.6
2	1.0	36*	64.6	17	0.68	36*	53.3
3	0.95	36*	63.0	18	0.68	36*	53.3
4	0.90	36*	61.3				
5	0.80	36*	57.8				
6	0.80	36*	57.8				
7	0.75	36*	55.9				
8	0.72	36*	54.8				
9	0.78	36*	57.0				
10	0.78	36*	57.0				
11	0.80	36*	57.8				
12	0.82	36*	58.5				
13	0.87	36*	60.2				
14	0.87	36*	60.2				
15	0.78	36*	57.0				

*Average of ambient temperatures

Stack Wet Bulb Temperature, (°F) Stack Dimensions 66" I.D.

A. Barometric Pressure, (In.Hg) 29.28

B. Static Pressure of Stack Gases, (In.H_2O) -3.0

C. Pitot Tube Correction Factor 0.84

D. Specific Gravity of Stack Gases Relative to Dry Air (1.0)

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 29.06

F. Average Uncorrected Velocity, (ft/sec) 57.5 or 60 * F, (ft/min) 3450

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 2941

H. Area of Stack, (ft^2) 23.8

I. Actual Gas Flow Rate = G * H, (ACFM) 69873

J. Average Stack Temperature, (°F) 36

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 72243

where T_{std} = standard temperature, 68 °F (Dry SCFM) 71882

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company **CREW** RJG

Sampling Station Coke Battery A Scrubber Inlet **Date** 2-12-75 **Time** 14:15

Test No Prelim.Traverse-5 **Pitot Tube No.** 18 **Manometer No.**

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
1	0.45	45	43.7	16	0.80	45	58.3
2	0.77	45	57.2	17	0.85	45	60.1
3	0.90	45	61.8	18	0.68	45	53.7
4	0.79	45	57.9				
5	0.75	45	56.4				
6	0.80	45	58.3				
7	0.83	45	59.4				
8	0.85	45	60.1				
9	0.78	45	57.6				
10	0.72	45	55.3				
11	0.72	45	55.3				
12	0.72	45	55.3				
13	0.75	45	56.4				
14	0.72	45	55.3				
15	0.68	45	53.7				

Stack Wet Bulb Temperature, (°F) ______ **Stack Dimensions** 66"I.D.

A. Barometric Pressure, (In.Hg) 29.52

B. Static Pressure of Stack Gases, (In.H_2O) -3.0

C. Pitot Tube Correction Factor 0.84

D. Specific Gravity of Stack Gases Relative to Dry Air (1.0)

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 29.30

F. Average Uncorrected Velocity, (ft/sec) 56.4 **or 60 * F, (ft/min)** 3386

G. Corrected Velocity $= F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, **(ft/min)** 2874

H. Area of Stack, (ft^2) 23.8

I. Actual Gas Flow Rate = G * H, (ACFM) 68281

J. Average Stack Temperature, (°F) 45

K. Standard Gas Flow Rate $= I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, **(SCFM)** 69912

where T_{std} = standard temperature, 68 **°F Dry SCFM** 69632

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company **CREW** RGK, GEH

Sampling Station Coke Battery A Scrubber Inlet **Date** 4-9-75 **Time** 12:17-12:36

Test No. Prelim.Traverse-6 **Pitot Tube No.** 10 **Manometer No.** ______

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
T-1	0.68	65	54.8	B-1	0.92	65	63.7
T-2	1.2	65	72.8	B-2	1.1	65	69.7
T-3	1.5	65	81.4	B-3	1.3	65	75.8
T-4	1.4	65	78.6	B-4	1.4	65	78.6
T-5	1.4	65	78.6	B-5	1.3	65	75.8
T-6	1.3	65	75.8	B-6	1.4	65	78.6
T-7	1.3	65	75.8	B-7	1.5	65	81.4
T-8	1.3	65	75.8	B-8	1.5	65	81.4
T-9	1.4	65	78.6	B-9	1.7	65	86.6
T-10	1.3	65	75.8	B-10	1.7	65	86.6
T-11	1.4	65	78.6	B-11	1.7	65	86.6
T-12	1.1	65	69.7	B-12	1.6	65	84.0
CL	1.3		75.8	CL	1.4		78.6

Stack Wet Bulb Temperature, (°F) ______ Stack Dimensions 66" I.D.

A. Barometric Pressure, (In.Hg) 29.40

B. Static Pressure of Stack Gases, (In.H_2O) -5.8

C. Pitot Tube Correction Factor 0.836

D. Specific Gravity of Stack Gases Relative to Dry Air 1.0

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 28.97

F. Average Uncorrected Velocity, (ft/sec) 76.9 or 60 * F, (ft/min) 4613

G. Corrected Velocity = F * C $\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 3919

H. Area of Stack, (ft^2) 23.8

I. Actual Gas Flow Rate = G * H, (ACFM) 93109

J. Average Stack Temperature, (°F) 65

K. Standard Gas Flow Rate = I * $\left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 90668

where T_{std} = standard temperature, 68 °F Dry SCFM 90215

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company CREW RGK, GEH
Sampling Station Coke Battery A Scrubber Inlet Date 4-10-75 Time 14:50-15:20
Test No. Prelim.Traverse-7 Pitot Tube No. 10 Manometer No.

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
T-1	1.0	64	66.4	B-1	1.4	64	78.5
T-2	1.05	64	68.0	B-2	1.4	64	78.5
T-3	1.2	64	72.7	B-3	1.3	64	75.7
T-4	1.3	64	75.7	B-4	1.6	64	84.0
T-5	1.3	64	75.7	B-5	1.6	64	84.0
T-6	1.3	64	75.7	B-6	1.4	64	78.5
T-7	1.3	64	75.7	B-7	1.3	64	75.7
T-8	1.4	64	78.5	B-8	1.4	64	78.5
T-9	1.5	64	81.3	B-9	1.2	64	72.7
T-10	1.5	64	81.3	B-10	1.3	64	75.7
T-11	1.6	64	84.0	B-11	1.2	64	72.7
T-12	1.3	64	75.7	B-12	1.05	64	68.0
CL	1.3		75.7	CL	1.6		84.0

Stack Wet Bulb Temperature, (°F) Stack Dimensions 66" I.D.
A. Barometric Pressure, (In.Hg) 29.38
B. Static Pressure of Stack Gases, (In.H_2O) -5.0
C. Pitot Tube Correction Factor 0.836
D. Specific Gravity of Stack Gases Relative to Dry Air 1.0
E. Absolute Pressure of Stack Gas = A + (B/13.6),(In.Hg) 29.01
F. Average Uncorrected Velocity, (ft/sec) 76.4 or 60 * F,(ft/min) 4583
G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 3891
H. Area of Stack, (ft^2) 23.8
I. Actual Gas Flow Rate = G * H, (ACFM) 92444
J. Average Stack Temperature, (°F) 64
K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 90316
where T_{std} = standard temperature, 68 °F Dry SCFM 89864

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company **CREW** RJG

Sampling Station Coke Battery A Scrubber Inlet **Date** 4-11-75 **Time** 10:45

Test No. Prelim.Traverse-8 **Pitot Tube No.** 10 **Manometer No.**

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
B-1	0.62	70	52.6	T-1	0.78	70	59.0
B-2	1.10	70	70.0	T-2	1.30	70	76.1
B-3	1.30	70	76.1	T-3	1.50	70	81.8
B-4	1.30	70	76.1	T-4	1.40	70	79.0
B-5	1.40	70	79.0	T-5	1.30	70	76.1
B-6	1.20	70	73.1	T-6	1.20	70	73.1
B-7	1.20	70	73.1	T-7	1.30	70	76.1
B-8	1.10	70	70.0	T-8	1.20	70	73.1
B-9	1.20	70	73.1	T-9	1.20	70	73.1
B-10	1.40	70	79.0	T-10	1.10	70	70.0
B-11	1.30	70	76.1	T-11	1.10	70	70.0
B-12	1.10	70	70.0	T-12	0.95	70	65.1

Stack Wet Bulb Temperature, (°F) Stack Dimensions 66"I.D.

A. Barometric Pressure, (In.Hg) 29.6

B. Static Pressure of Stack Gases, (In.H_2O) -4.3

C. Pitot Tube Correction Factor 0.842

D. Specific Gravity of Stack Gases Relative to Dry Air 1.0

E. Absolute Pressure of Stack Gases = A + (B/13.6),(In.Hg) 29.28

F. Average Uncorrected Velocity, (ft/sec) 72.5 or 60 * F,(ft/min) 4352

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 3704

H. Area of Stack, (ft^2) 23.8

I. Actual Gas Flow Rate = G * H, (ACFM) 88001

J. Average Stack Temperature, (°F) 70

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 85794

where T_{std} = standard temperature, 68 °F Dry SCFM 85365

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company CREW RJG

Sampling Station Coke Battery A Scrubber Inlet Date 4-14-75 Time 15:35

Test No. Prelim.Traverse-9 Pitot Tube No. 10 Manometer No.

Sampling Point	Velocity Pressure ($In.H_2O$)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure ($In.H_2O$)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
B-1	0.85	62	61.1	T-1	0.55	62	49.1
B-2	1.15	62	71.1	T-2	1.15	62	71.1
B-3	1.20	62	72.6	T-3	1.35	62	77.0
B-4	1.20	62	72.6	T-4	1.45	62	79.8
B-5	1.20	62	72.6	T-5	1.45	62	79.8
B-6	1.25	62	74.1	T-6	1.40	62	78.4
B-7	1.35	62	77.0	T-7	1.45	62	79.8
B-8	1.40	62	78.4	T-8	1.40	62	78.4
B-9	1.50	62	81.1	T-9	1.45	62	79.8
B-10	1.60	62	83.8	T-10	1.40	62	78.4
B-11	1.35	62	77.0	T-11	1.30	62	75.5
B-12	1.50	62	81.1	T-12	1.25	62	74.1

Stack Wet Bulb Temperature, (°F) Stack Dimensions 66"I.D.

A. Barometric Pressure, (In.Hg) 29.8

B. Static Pressure of Stack Gases, ($In.H_2O$) -6.0

C. Pitot Tube Correction Factor 0.842

D. Specific Gravity of Stack Gases Relative to Dry Air 1.0

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 29.36

F. Average Uncorrected Velocity, (ft/sec) 75.2 or 60 * F, (ft/min) 4509

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 3833

H. Area of Stack, (ft^2) 23.8

I. Actual Gas Flow Rate = G * H, (ACFM) 91066

J. Average Stack Temperature, (°F) 62

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 90388

where T_{std} = standard temperature, 68 °F

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company **CREW** RCM

Sampling Station Coke Battery A Scrubber Inlet **Date** 7/23/75 **Time** 12:15-12:30

Test No. Prelim. Traverse-10 **Pitot Tube No.** 10 **Manometer No.** --

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
T-12	0.070	85	17.9	S-12	0.065	85	17.3
T-11	0.090	85	20.3	S-11	0.090	85	20.3
T-10	0.085	85	19.7	S-10	0.085	85	19.7
T-9	0.080	85	19.1	S-9	0.085	85	19.7
T-8	0.080	85	19.1	S-8	0.090	85	20.3
T-7	0.085	85	19.7	S-7	0.080	85	19.1
T-6	0.090	85	20.3	S-6	0.070	85	17.9
T-5	0.085	85	19.7	S-5	0.065	85	17.3
T-4	0.065	85	17.3	S-4	0.055	85	15.9
T-3	0.065	85	17.3	S-3	0.060	85	16.6
T-2	0.075	85	18.5	S-2	0.060	85	16.6
T-1	0.060	85	16.6	S-1	0.060	85	16.6

Stack Wet Bulb Temperature, (°F) -- Stack Dimensions 66" I.D.

A. Barometric Pressure, (In.Hg) 29.50

B. Static Pressure of Stack Gases, (In.H_2O) -0.55

C. Pitot Tube Correction Factor 0.846

D. Specific Gravity of Stack Gases Relative to Dry Air 1.0

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 29.46

F. Average Uncorrected Velocity, (ft/sec) 18.4 or 60 * F, (ft/min) 1107

G. Corrected Velocity = F * C$\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 944

H. Area of Stack, (ft^2) 23.8

I. Actual Gas Flow Rate = G * H, (ACFM) 22,428

J. Average Stack Temperature, (°F) 85

K. Standard Gas Flow Rate = I * $\left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 21,394

where T_{std} = standard temperature, 68 °F

GDC-2 NOTE: Doors and louvers closed

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company CREW RJP, MRD

Sampling Station Coke Battery A Scrubber Outlet Date 1-11-75 Time 09:30-10:00

Test No. Prelim. Traverse-1 Pitot Tube No. 12 Manometer No.

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
NE-1	0.32	104	39.0	NW-1	0.37	105	41.9
NE-2	0.42	104	44.6	NW-2	0.47	105	47.3
NE-3	0.48	104	47.7	NW-3	0.48	105	47.8
NE-4	0.57	104	52.0	NW-4	0.61	105	53.8
NE-5	0.48	104	47.7	NW-5	0.60	105	53.4
NE-6	0.50	104	48.7	NW-6	0.55	105	51.1
NE-7	0.48	104	47.7	NW-7	0.60	105	53.4
NE-8	0.55	104	51.1	NW-8	0.52	105	49.7
NE-9	0.49	104	48.2	NW-9	0.57	105	52.0

Stack Wet Bulb Temperature, (°F) — Stack Dimensions 90" I.D.

A. Barometric Pressure, (In.Hg) 28.9

B. Static Pressure of Stack Gases, (In.H_2O) —

C. Pitot Tube Correction Factor 0.84

D. Specific Gravity of Stack Gases Relative to Dry Air 1.0

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg) 28.9

F. Average Uncorrected Velocity, (ft/sec) 42.9 or 60 * F, (ft/min) 2575

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min) 2201

H. Area of Stack, (ft^2) 44.2

I. Actual Gas Flow Rate = G * H, (ACFM) 97237

J. Average Stack Temperature, (°F) 102

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM) 88240

where T_{std} = standard temperature, 68 °F Dry SCFM 88000

GEORGE D. CLAYTON & ASSOCIATES
EXHAUST GAS VELOCITY AND FLOW RATE

PROJECT Ford Motor Company **CREW** RJP, MRD

Sampling Station Coke Battery A Scrubber Outlet **Date** 1-11-75 **Time** 09:30-10:00

Test No. Prelim. Traverse-1 (Con.) **Pitot Tube No.** 12 **Manometer No.** ________

Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)	Sampling Point	Velocity Pressure (In.H_2O)	DB Temp (°F)	Uncorrected Velocity (Ft/sec)
SE-1	0.36	100	41.2	SW-1	0.32	100	38.8
SE-2	0.40	100	43.4	SW-2	0.43	100	45.0
SE-3	0.46	100	46.5	SW-3	0.48	100	47.5
SE-4	0.48	100	47.5	SW-4	0.52	100	49.5
SE-5	0.48	100	47.5	SW-5	0.48	100	47.5
SE-6	0.51	100	49.0	SW-6	0.50	100	48.5
SE-7	0.50	100	48.5	SW-7	0.48	100	47.5
SE-8	0.50	100	48.5	SW-8	0.46	100	46.5
SE-9	0.51	100	49.0	SW-9	0.48	100	47.5

Stack Wet Bulb Temperature, (°F)________ Stack Dimensions________

A. Barometric Pressure, (In.Hg)________

B. Static Pressure of Stack Gases, (In.H_2O)________

C. Pitot Tube Correction Factor________

D. Specific Gravity of Stack Gases Relative to Dry Air________

E. Absolute Pressure of Stack Gases = A + (B/13.6), (In.Hg)________

F. Average Uncorrected Velocity, (ft/sec)________ or 60 * F, (ft/min)________

G. Corrected Velocity = $F * C\sqrt{\frac{29.92}{E} * \frac{1.00}{D}}$, (ft/min)________

H. Area of Stack, (ft^2)________

I. Actual Gas Flow Rate = G * H, (ACFM)________

J. Average Stack Temperature, (°F)________

K. Standard Gas Flow Rate = $I * \left(\frac{T_{std} + 460}{J + 460}\right) * \left(\frac{E}{29.92}\right)$, (SCFM)________

where T_{std} = standard temperature,________°F

SAMPLING TRAIN DATA

(Page 1 of 3)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 4-11-75

Test Number: Prelim. EPA Method 5 Sample-1

Field Person: RJG

Filter Number:

Barometric Pressure ("Hg): 29.6

Stack Static Pressure ("H_2O): -4.3

Stack Dimensions: 66" I.D.

Plume Appearance:

Ambient Temperature (°F):

Record all Data Every ________ **Minutes**

Filter Heater Setting:

Probe Heater Setting:

Nozzle Number: ____, **Dia. (in.):** 3/16

Pitot Tube No. 18, **Corr. Factor:**

Meter Box No. MAC-2, **Corr. Factor:** 0.978

Meter Isokinetic Factor:

Assumed Moisture (%): 1

Condensate Volume (ml): 0

Silica Gel Weight Gain (g):

Leak Rate ________ **CFM at** ________ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
B-8	0	11:05	1.25	96	626.907	51	45	1.50			2.0
	60				627.550						
B-7	0	11:12	1.60	166		50	44	2.00			2.0
	148				629.427						
B-6	0	11:24	0.15	168		50	44	0.20			2.0
	81				629.757						
B-5	0	11:37	1.45	80		51	45	1.60			2.0
	88				630.776						
	0	12:12	1.45	70		50	44	1.90			2.0
	60		1.45	128		50	44	1.80			2.0
	137				632.461						
B-4	0	12:29	1.40	80		51	45	1.80			2.0
	50		1.40	130		51	45	1.70			2.0
	114				633.577						
B-3	0	12:43	1.30	75		51	45	1.70			2.0
	160		1.60	197		51	45	1.45			2.0
	215				636.268						
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 3)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 4-11-75

Filter Heater Setting:

Test Number: Prelim. EPA Method 5 Sample-1

Probe Heater Setting:

Field Person: RJG

Nozzle Number: , Dia. (in.): 3/16

Filter Number:

Pitot Tube No. 18, Corr. Factor:

Barometric Pressure ("Hg): 29.6

Meter Box No. MAC-2, Corr. Factor 0.978

Stack Static Pressure ("H_2O): -4.3

Meter Isokinetic Factor:

Stack Dimensions: 66" I.D.

Assumed Moisture (%): 1

Plume Appearance:

Condensate Volume (ml): 0

Ambient Temperature (°F):

Silica Gel Weight Gain (g):

Record all Data Every ______ Minutes

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
B-2	0	12:55	1.20	75	636.268	51	45	1.55			2.0
	45		1.35	163		51	45	1.40			2.0
	73				637.098						
B-1	0	13:15	1.10	68		52	46	1.40			2.0
	110		1.20	147		52	46	1.30			2.0
	179				638.992						
T-8	0	13:40	0.13	78		52	46	0.17			2.0
	110		0.15	139		52	46	0.19			2.0
	143				639.575						
T-7	0	13:54	1.60	70		52	46	2.10			2.0
	95		1.60	129		52	46	1.95			2.0
	161				641.654						
T-6	0	14:05	1.50	70		52	46	2.00			2.0
	28		1.90	210		52	46	2.30			2.0
	68				642.552						
T-5	0	14:20	1.50	70		52	46	2.00			2.0
	10		1.80	310		52	46	1.80			2.0
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 3)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 4-11-75
Filter Heater Setting:
Test Number: Prelim. EPA Method 5 Sample-1
Probe Heater Setting:
Field Person: RJG
Nozzle Number: , Dia. (in.): 3/16
Filter Number:
Pitot Tube No. 18, Corr. Factor:
Barometric Pressure ("Hg): 29.6
Meter Box No. MAC-2, Corr. Factor: 0.978
Stack Static Pressure ("H_2O): -4.3
Meter Isokinetic Factor:
Stack Dimensions: 66"I.D.
Assumed Moisture (%): 1
Plume Appearance:
Condensate Volume (ml): 0
Ambient Temperature (°F):
Silica Gel Weight Gain (g):
Record all Data Every ______ Minutes
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
	62				643.333						
T-4	0	14:30	0.11	70	643.333	52	46	0.15			2.0
	35		0.13	173		52	46	0.15			2.0
	92				643.653						
T-3	0	14:50	1.50	70		52	46	2.00			2.0
	170		1.60	138		52	46	2.00			2.0
	231				646.632						
T-2	0	15:04	1.40	70		52	46	1.85			2.0
	180		1.45	128		52	46	1.75			2.0
	240				649.586						
T-1	0	15:28	1.05	70		52	46	1.40			2.0
	25		1.05	104		52	46	1.30			2.0
	74				650.342						
AVERAGE (TOTAL)				111	(22.919)	51	45	1.5			2.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 3)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 4-14-75

Test Number: Prelim.EPA Method 5 Sample-2

Field Person: RJG

Filter Number: A-098-39

Barometric Pressure ("Hg): 29.8

Stack Static Pressure ("H_2O): -6.0

Stack Dimensions: 66" I.D.

Plume Appearance:

Ambient Temperature(°F):

Record all Data Every ________ Minutes

Filter Heater Setting:

Probe Heater Setting:

Nozzle Number: ____,Dia.(in.): 3/16

Pitot Tube No. 18 ,Corr.Factor:

Meter Box No. MAC-2 ,Corr.Factor: 0.978

Meter Isokinetic Factor:

Assumed Moisture(%): 1

Condensate Volume(ml): 5

Silica Gel Weight Gain(g):

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec.)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	13:18	1.45	70	654.861	52	46	1.95	90		2.0
	60		1.70	310		52	46	1.70	90		2.0
	100				656.062						
T-7	0	13:30	0.40	185		52	46	0.56	90		2.0
	60				656.376						
T-6	0	13:42	1.50	70		52	46	1.70	100		2.0
	20		1.80	153		52	46	2.00	100		2.0
	75				657.187						
T-5	0	14:00	1.55	70		52	46	2.00	100		2.0
	20		1.70	150		52	46	1.90	100		2.0
	53				657.829						
T-4	0	14:15	1.60	70		52	46	2.10	100		2.0
	180		1.80	165		52	46	2.20	100		2.0
	234				660.888						
T-3	0	14:28	1.50	70		52	46	2.00	100		2.0
	227				663.780						2.0
AVERAGE (TOTAL)					( )						

C-20

SAMPLING TRAIN DATA

(Page 2 of 3)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 4-14-75
Test Number: Prelim. EPA Method 5 Sample-2
Field Person: RJG
Filter Number: A-098-39
Barometric Pressure ("Hg): 29.8
Stack Static Pressure ("H_2O): -6.0
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature (°F):
Record all Data Every ______ Minutes

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____, Dia. (in.): 3/16
Pitot Tube No. 18, Corr. Factor:
Meter Box No. MAC-2, Corr. Factor: 0.978
Meter Isokinetic Factor:
Assumed Moisture (%): 1
Condensate Volume (ml): 5
Silica Gel Weight Gain (g):
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-3	0	14:39	1.50	70	663.780	52	46	2.00	100		2.0
	60		1.70	160		52	46	1.90	100		2.0
	110				665.183						
T-2	0	14:48	1.40	65		52	46	1.90	100		2.0
	120		1.50	70		52	46	1.80	100		2.0
	245				668.153						
T-1	0	15:01	1.10	62		52	46	1.50	100		2.0
	70		1.10	81		52	46	1.45	100		2.0
	107				669.325						
B-8	0	15:16	1.80	65		52	46	2.40	100		2.0
	85		2.00	160		52	46	2.50	100		2.0
	130				671.163						
B-7	0	15:22	1.70			52	46	2.30	100		2.0
	25		1.90	163		52	46	2.20	100		2.0
	74				672.144						
B-6	0	16:19	0.13	70		51	45	0.17	100		2.0
	30		0.15	130		51	45	0.17	100		2.0
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 3 of 3)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 4-14-75

Test Number: Prelim. EPA Method 5 Sample-2

Field Person: RJG

Filter Number: A-098-39

Barometric Pressure ("Hg): 29.8

Stack Static Pressure ("H_2O): -6.0

Stack Dimensions: 66" I.D.

Plume Appearance:

Ambient Temperature(°F):

Record all Data Every ______ Minutes

Filter Heater Setting:

Probe Heater Setting:

Nozzle Number: ____, Dia.(in.): 3/16

Pitot Tube No. 18, Corr. Factor:

Meter Box No. MAC-2, Corr. Factor 0.978

Meter Isokinetic Factor:

Assumed Moisture(%): 1

Condensate Volume(ml): 5

Silica Gel Weight Gain(g):

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
	71				672.422						
B-5	0	16:33	1.60	70	672.422	51	45	2.15	100		2.0
	60		1.80	158		51	45	2.05	100		2.0
	111				673.867						
B-4	0	16:47	1.40	70		51	45	1.85	100		2.0
	75		1.50	158		51	45	1.75	100		2.0
	112				675.274						
B-3	0	17:01	1.30	70		51	45	1.70	100		2.0
	90		1.30	70		51	45	1.55	100		2.0
	120				676.664						
B-2	0	17:13	1.50	70		51	45	2.00	100		2.0
	90		1.70	185		51	45	1.80	100		2.0
	125				678.237						
B-1	0	17:28	1.10	62		51	45	1.45	100		2.0
	45		1.30	156		51	45	1.45	100		2.0
	80				679.102						
AVERAGE (TOTAL)				98	(23.7)	52	46	1.84	99		2.0

SAMPLING TRAIN DATA

(Page 1 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/24/75
Test Number: EPA Method 5 Sample-1
Field Person: RGK
Filter Number: A-147-25 & 26
Barometric Pressure ("Hg): 29.78 (avg)
Stack Static Pressure ("H_2O): -5.0
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): 80
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 200°F
Nozzle Number: --, Dia.(in.): 0.189
Pitot Tube No. 18, Corr.Factor: 0.838
Meter Box No. RAC-1, Corr.Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): 0
Silica Gel Weight Gain(g): 12
Leak Rate 0.0 CFM at 16.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-12	0	09:43	1.5	80	445.592	80	80	1.7	130	80	4.0
	30		1.5	250				1.7			
	60		(1.5)	(150)				(1.7)			
	Max		(1.5)	(350)							
T-11	0	10:36	1.3	83	446.577	82	82	2.0	230	80	4.5
	30		1.6	150				2.1			
	60		(1.5)	(150)				(2.0)			
	Max		(1.6)	(250)							
T-10	0	10:52	1.5	87	447.317	82	82	2.2	230	80	4.5
	30		1.7	200				2.0			
	60		(1.6)	(150)				(2.0)			
	Max		(1.7)	(225)							
T-9	0	11:03	1.3	90	447.925	82	82	1.85	230	80	4.5
	30		1.6	150				2.1			
	60		(1.3)	(125)				(2.1)			
	Max		(1.7)	(150)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 6)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/24/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-1

Probe Heater Setting: 200°F

Field Person: RGK

Nozzle Number: --, Dia. (in.): 0.189

Filter Number: A-147-25 & 26

Pitot Tube No. 18, Corr. Factor: 0.838

Barometric Pressure ("Hg): 29.78 (avg)

Meter Box No. RAC-1, Corr. Factor: 0.974

Stack Static Pressure ("H_2O): -5.0

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture (%): 1

Plume Appearance: --

Condensate Volume (ml): 0

Ambient Temperature (°F): 80

Silica Gel Weight Gain (g): 12

Record all Data Every 0.5 Minutes

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time: Sampling (sec)	Time: Clock	Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter: Volume (ft^3)	Dry Gas Meter: Temp (°F) Inlet	Dry Gas Meter: Temp (°F) Outlet	Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
T-8	0	11:17	1.3	88	448.725	82	82	1.95	235	80	4.5
	30		1.5	130				2.0			
	60		(1.3)	(100)				(2.0)			
	Max		(1.5)	(135)							
T-7	0	11:32	1.2	90	449.527	83	83	1.7	235	80	4.5
	30		1.5	200				1.8			
	60		(1.5)	(200)				(1.8)			
	Max		(1.6)	(350)							
T-6	0	11:46	1.2	96	450.210	83	83	1.7	235	80	4.5
	30		1.4	260				1.6			
	60		(1.2)	(150)				(1.6)			
	Max		(1.4)	(275)							
T-5	0	11:58	1.3	95	450.928	83	83	1.9	235	80	4.5
	30		1.6	400				1.9			
	60		(1.6)	(>600)							
	Max			(>600)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/24/75
Filter Heater Setting: 250°F
Test Number: EPA Method 5 Sample-1
Probe Heater Setting: 200°F
Field Person: RGK
Nozzle Number: --, Dia.(in.): 0.189
Filter Number: A-147-25 & 26
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.78 (avg)
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture(%): 1
Plume Appearance: --
Condensate Volume(ml): 0
Ambient Temperature(°F): 80
Silica Gel Weight Gain(g): 12
Record all Data Every 0.5 Minutes
Leak Rate ______ CFM at ______"Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	13:30	1.3	95	451.665	86	86	1.85	230	83	4.5
	30		1.5	200				1.85			
	60		(1.4)	(100)							
	Max		(1.5)	(200)							
T-3	0	13:40	1.3	95	452.323	86	86	1.8	230	83	4.5
	30		1.3	150				2.0			
	60		(1.3)	(150)				(2.0)			
	Max		(1.3)	(150)							
T-2	0	14:26	1.1	100	452.982	76	76	1.6	230	83	3.0
	30		1.1	200				1.3			
	60		(1.1)	(150)				(1.4)			
	Max		(1.1)	(200)							
T-1	0	14:38	1.1	100	453.693	–	–	1.6	230	83	3.0
	30		1.1	150				1.6			
	60		(1.1)	(125)				(1.6)			
	Max		(1.2)	(170)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/25/75 **Filter Heater Setting:** 250°F
Test Number: EPA Method 5 Sample-1 **Probe Heater Setting:** 250°F
Field Person: JBS **Nozzle Number:** -- **,Dia.(in.):** 0.189
Filter Number: A-147-25 & 26 **Pitot Tube No.** 18 **,Corr.Factor:** 0.838
Barometric Pressure ("Hg): 29.78 (avg) **Meter Box No.** RAC-I**,Corr.Factor:** 0.974
Stack Static Pressure ("H_2O): -5.0 **Meter Isokinetic Factor:** 1720
Stack Dimensions: 66" I.D. **Assumed Moisture(%):** 1
Plume Appearance: -- **Condensate Volume(ml):** 0
Ambient Temperature(°F): 80 **Silica Gel Weight Gain(g):** 12
Record all Data Every 0.5 **Minutes** **Leak Rate** 0.005 **CFM at** 16.5 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-12	0	10:05	1.2	100	454.604	77	77	1.7	250	68	–
	30		1.6	150				2.1			
	60		(1.5)	(125)	455.568						
	Max			(250)							
S-11	0	10:18	1.5	100	455.672	78	78	2.1	250	70	–
	30		1.5	155				2.1			
	60		(1.2)	(125)	456.417						
	Max		(1.5)	(160)							
S-10	0	10:29	1.3	95	456.419	84	84	1.8	250	70	4.0
	30		1.6	130				2.2			
	60		(1.6)	(125)	456.906			(0.1)			16.0
	Max										
S-9	0	10:40	1.1	100	456.907	–	–	0.1	–	–	16.0
	30		1.5	170				0.1			16.0
	60		(1.5)	(125)	457.107			(0.1)			(16.0)
	Max			(200)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 5 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/25/75
Test Number: EPA Method 5 Sample-1
Field Person: JBS
Filter Number: A-147-25 & 26
Barometric Pressure ("Hg): 29.78 (avg)
Stack Static Pressure ("H_2O): -5.0
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature (°F): 80
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: -- , Dia. (in.): 0.189
Pitot Tube No. 18 , Corr. Factor: 0.838
Meter Box No. RAC-1, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture (%): 1
Condensate Volume (ml): 0
Silica Gel Weight Gain (g): 12
Leak Rate 0.005 CFM at 16.5 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-8	0	12:53	1.5	110	459.169	94	93	2.0	250	70	3.0
	30		1.5	475				1.6			
	60		(1.5)	(250)	459.951						
	Max			(475)							
S-7	0	13:10	1.3	110	459.957	94	93	1.9	250	72	3.0
	30		1.6	280				1.7			
	60			(160)	460.702						
	Max			(280)							
S-6	0	13:32	1.3	105	460.707	94	93	1.9	250	75	3.0
	30		1.6	225				1.85			
	60			(150)	461.457						
	Max			(240)							
S-5	0	13:42	1.3	95	461.458	94	93	1.9	250	75	3.0
	30		1.6	175							
	60			(145)	462.250						
	Max			(200)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 6 of 6)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/25/75

Test Number: EPA Method 5 Sample-1

Field Person: JBS

Filter Number: A-147-25 & 26

Barometric Pressure ("Hg): 29.78 (avg)

Stack Static Pressure ("H_2O): -5.0

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature(°F): 80

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F

Probe Heater Setting: 250°F

Nozzle Number: --, Dia.(in.): 0.189

Pitot Tube No. 18, Corr.Factor: 0.838

Meter Box No. RAC-1, Corr.Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture(%): 1

Condensate Volume(ml): 0

Silica Gel Weight Gain(g): 12

Leak Rate 0.005 CFM at 16.5 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	13:53	1.3	100	462.252	94	94	1.9	250	75	3.0
	30		1.4	160				1.8			
	60			(140)	463.023						
	Max			(165)							
S-3	0	14:03	1.3	100	463.027	94	94	1.9	250	75	3.0
	30		1.4	145				1.8			
	60			(150)	463.758						
	Max			(170)							
S-2	0	14:17	1.2	110	463.762	94	94	1.6	250	75	3.0
	30		1.3	225				1.5			
	60			(190)	464.452						
	Max			(275)							
S-1	0	14:28	1.2	110	464.453	94	94	1.6	250	75	3.0
	30		1.6	500				1.4			
	60			(250)	465.132						
	Max			(550)							
AVERAGE (TOTAL)				158	(16.897)	86	86	1.75	236	77	4.3

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/26/75
Filter Heater Setting: 250°F
Test Number: EPA Method 5 Sample-2
Probe Heater Setting: 250°F
Field Person: JBS
Nozzle Number: --, Dia. (in.): 0.189
Filter Number: A-147-30
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.54 (avg)
Meter Box No. RAC-I, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): 1
Ambient Temperature (°F): 80
Silica Gel Weight Gain (g): 12.5
Record all Data Every 0.5 Minutes
Leak Rate 0.018 CFM at 16.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-12	0	09:25	1.4	105	465.324	70	69	2.0	170	70	3.0
	30		1.7	225				1.9			
	60				466.112						
	Max			(225)							
T-11	0	10:16	1.4	100	466.128	84	82	2.0	190	70	3.0
	30		1.6	300				1.7			
	60			(180)	466.878						
	Max			(325)							
T-10	0	10:39	1.4	90	466.886	92	90	2.0	265	72	3.0
	30		1.7	175				2.2			
	60			(140)	467.680						
	Max			(200)							
T-9	0	10:49	1.6	100	467.682	93	91	2.3	260	72	3.0
	30		2.4	375				2.0			
	60			(185)	468.502						
	Max			(400)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/26/75
Filter Heater Setting: 250°F
Test Number: EPA Method 5 Sample-2
Probe Heater Setting: 250°F
Field Person: JBS
Nozzle Number: --, Dia. (in.): 0.189
Filter Number: A-147-30
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.54 (avg)
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): 1
Ambient Temperature (°F): 80
Silica Gel Weight Gain (g): 12.5
Record all Data Every 0.5 Minutes
Leak Rate — CFM at — "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	11:02	1.4	110	468.508	94	92	2.0	260	73	3.0
	30		1.7	175				2.1			
	60			(160)	469.300						
	Max			(220)							
T-7	0	11:25	1.5	95	469.305	95	93	2.2	265	70	3.0
	30		1.6	155				2.1			
	60			(135)	470.113						
	Max			(195)							
T-6	0	11:39	1.4	95	470.115	95	93	2.0	265	70	3.0
	30		1.5	145				2.0			
	60			(120)	470.921						
	Max			(160)							
T-5	0	12:55	1.4	105	470.932	95	93	2.0	265	70	3.0
	30		1.8	605				1.6			
	60			(260)	471.682						
	Max			(605)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 3 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/26/75
Test Number: EPA Method 5 Sample-2
Field Person: JBS
Filter Number: A-147-30
Barometric Pressure ("Hg): 29.54 (avg)
Stack Static Pressure ("H_2O): -5.0
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): 80
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: -- ,Dia.(in.): 0.189
Pitot Tube No. 18 ,Corr.Factor: 0.838
Meter Box No. RAC-1 ,Corr.Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): 1
Silica Gel Weight Gain(g): 12.5
Leak Rate — CFM at — "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	13:10	1.2	110	471.683	95	93	1.6	260	75	3.0
	30		1.4	270				1.6			
	60			(175)	472.387						
	Max			(280)							
T-3	0	13:32	1.1	100	472.388	96	94	1.6	260	75	3.0
	30		1.3	175				1.6			
	60			(145)	473.082						
	Max			(185)							
T-2	0	13:37	0.85	100	473.083	96	94	1.2	260	75	3.0
	30		1.0	150				1.3			
	60			(125)	473.718						
	Max			(165)							
T-1	0	13:45	0.85	100	473.718	97	95	1.2	260	75	3.0
	30		0.90	130				1.2			
	60			(120)	474.350						
	Max			(140)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/26/75
Test Number: EPA Method 5 Sample-2
Field Person: JBS
Filter Number: A-147-30
Barometric Pressure ("Hg): 29.54 (avg)
Stack Static Pressure ("H_2O): -5.0
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): 80
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: -- , Dia. (in.): 0.189
Pitot Tube No. 18 , Corr. Factor: 0.838
Meter Box No. RAC-1 , Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): 1
Silica Gel Weight Gain(g): 12.5
Leak Rate 0.015 CFM at 16.5 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-12	0	14:08	1.5	105	474.353	96	94	2.2	260	75	4.0
	30		1.8	245				2.0			
	60			(160)	475.160						
	Max			(245)							
S-11	0	14:38	1.3	95	475.166	96	94	1.9	260	75	4.0
	30		1.6	260				1.7			
	60			(155)	475.929						
	Max			(280)							
S-10	0	14:58	0.75	100	475.936	96	94	1.0	260	75	4.0
	30		0.85	225				1.1			
	60			(210)	476.545						
	Max			(290)							
S-9	0	15:04	0.65	100	476.548	96	94	1.0	260	75	4.0
	30		0.75	150				1.05			
	60			(140)	477.118						
	Max			(160)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 5 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/27/75
Filter Heater Setting: 250°F
Test Number: EPA Method 5 Sample-2
Probe Heater Setting: 250°F
Field Person: JBS
Nozzle Number: --, Dia. (in.): 0.189
Filter Number: A-147-30
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.54 (avg)
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): 1
Ambient Temperature (°F): 80
Silica Gel Weight Gain (g): 12.5
Record all Data Every 0.5 Minutes
Leak Rate 0.010 CFM at 16.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-8	0	10:56	1.4	105	477.325	96	94	2.0	260	75	3.0
	30		1.6	175				2.0			
	60			(160)	478.112						
	Max			(210)							
S-7	0	11:08	1.4	105	478.114	96	94	2.0	260	75	3.5
	30		1.6	170				2.0			
	60			(135)	478.902						
	Max			(175)							
S-6	0	11:35	1.5	105	478.908	96	94	2.2	260	75	3.5
	30		1.8	450				1.7			
	60			(250)	479.700						
	Max			(460)							
S-5	0	11:58	1.3	110	479.703	96	94	1.9	260	75	3.5
	30		1.4	400							
	60			(220)	480.448						
	Max			(500)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 6 of 6)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/27/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-2

Probe Heater Setting: 250°F

Field Person: JBS

Nozzle Number: -- **, Dia. (in.):** 0.189

Filter Number: A-147-30

Pitot Tube No. 18**, Corr. Factor:** 0.838

Barometric Pressure ("Hg): 29.54 (avg)

Meter Box No. RAC-1**, Corr. Factor:** 0.974

Stack Static Pressure ("H_2O): -5.0

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture (%): 1

Plume Appearance: --

Condensate Volume (ml): 1

Ambient Temperature (°F): 85

Silica Gel Weight Gain (g): 12.5

Record all Data Every 0.5 **Minutes**

Leak Rate — **CFM at** — **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	13:25	1.2	95	480.461	96	94	1.7	260	75	3.5
	30		1.7	700				1.4			
	60			(275)	481.165						
	Max			(850)							
S-3	0	13:40	1.2	110	481.167	96	94	1.7	260	75	3.5
	30		1.4	210				1.7			
	60			(155)	481.879						
	Max			(225)							
S-2	0	14:05	1.2	100	481.882	96	94	1.7	260	75	3.5
	30		1.4	170				1.8			
	60			(210)	482.612						
	Max			(270)							
S-1	0	14:24	1.0	100	482.615	96	94	1.4	260	75	3.5
	30		1.3	325				1.4			
	60			(170)	483.268						
	Max			(325)							
AVERAGE (TOTAL)				183	(17.175)	94	92	1.7	254	74	3.3

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 6)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/30/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-3

Probe Heater Setting: 250°F

Field Person: JBS

Nozzle Number: --, Dia.(in.): 0.189

Filter Number: A-147-34

Pitot Tube No. 18, Corr. Factor: 0.838

Barometric Pressure ("Hg): 29.70 (avg)

Meter Box No. RAC-1, Corr. Factor: 0.974

Stack Static Pressure ("H_2O): -5.0

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture(%): 1

Plume Appearance: --

Condensate Volume(ml): 0

Ambient Temperature(°F): 85

Silica Gel Weight Gain(g): 17

Record all Data Every 0.5 Minutes

Leak Rate 0.015 CFM at 15.5 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-12	0	08:54	1.4	100	483.442	80	78	2.0	240	78	2.5
	30		1.4	150				1.8			
	60			(130)	484.202						
	Max			(160)							
T-11	0	09:05	1.4	100	484.207	88	86	2.0	240	78	2.5
	30		1.5	495				1.3			
	60			(245)	484.932						
	Max			(495)							
T-10	0	09:20	1.4	105	484.933	94	92	2.0	250	78	2.5
	30		1.6	320				1.7			
	60			(180)	485.683						
	Max			(325)							
T-9	0	09:43	1.4	100	485.686	95	93	2.0	260	78	2.5
	30		1.7	260				1.9			
	60			(200)	486.446						
	Max			(280)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 6)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/30/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-3

Probe Heater Setting: 250°F

Field Person: JBS

Nozzle Number: -- , Dia. (in.): 0.189

Filter Number: A-147-34

Pitot Tube No. 18 , Corr. Factor: 0.838

Barometric Pressure ("Hg): 29.70 (avg)

Meter Box No. RAC-1 , Corr. Factor: 0.974

Stack Static Pressure ("H_2O): -5.0

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture (%): 1

Plume Appearance: --

Condensate Volume (ml): 0

Ambient Temperature (°F): 85

Silica Gel Weight Gain (g): 17

Record all Data Every 0.5 Minutes

Leak Rate — CFM at — "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	09:54	1.4	100	486.446	95	94	2.0	260	78	3.0
	30		1.6	210				1.9			
	60			(160)	487.209						
	Max			(225)							
T-7	0	10:03	1.4	100	487.212	95	94	2.0	260	78	3.0
	30		1.6	170				2.0			
	60			(185)	487.978						
	Max			(250)							
T-6	0	10:11	1.4	105	487.978	96	95	2.0	260	78	3.0
	30		1.5	160				1.9			
	60			(145)	488.761						
	Max			(180)							
T-5	0	10:27	1.4	105	488.761	96	95	2.0	260	78	3.0
	30		1.6	575				1.3			
	60			(305)	489.489						
	Max			(605)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 6)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/30/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-3

Probe Heater Setting: 250°F

Field Person: JBS

Nozzle Number: -- ,Dia.(in.): 0.189

Filter Number: A-147-34

Pitot Tube No. 18 ,Corr.Factor: 0.838

Barometric Pressure ("Hg): 29.70 (avg)

Meter Box No. RAC-1,Corr.Factor: 0.974

Stack Static Pressure ("H_2O): -5.0

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture(%): 1

Plume Appearance: --

Condensate Volume(ml): 0

Ambient Temperature(°F): 85

Silica Gel Weight Gain(g): 17

Record all Data Every 0.5 Minutes

Leak Rate — CFM at — "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
T-4	0	10:45	1.4	100	489.489	96	95	2.0	260	78	3.0
	30		1.6	340				1.5			
	60			(175)	490.221						
	Max			(340)							
T-3	0	10:56	1.4	105	490.221	99	97	2.0	250	78	3.0
	30		1.6	520				1.3			
	60			(260)	490.938						
	Max			(530)							
T-2	0	12:20	1.0	110	490.938	99	97	1.4	250	78	2.0
	30		1.0	200				1.2			
	60			(160)	491.592						
	Max			(220)							
T-1	0	12:47	0.85	100	491.594	99	97	1.2	250	78	2.0
	30		1.0	265				1.0			
	60			(155)	492.198						
	Max			(265)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 4 of 6)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/30/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-3

Probe Heater Setting: 250°F

Field Person: JBS

Nozzle Number: -- **,Dia.(in.):** 0.189

Filter Number: A-147-34

Pitot Tube No. 18 **,Corr.Factor:** 0.838

Barometric Pressure ("Hg): 29.70 (avg)

Meter Box No. RAC-I**,Corr.Factor:** 0.974

Stack Static Pressure ("H_2O): -5.0

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture(%): 1

Plume Appearance: --

Condensate Volume(ml): 0

Ambient Temperature(°F): 85

Silica Gel Weight Gain(g): 17

Record all Data Every 0.5 **Minutes**

Leak Rate 0.015 **CFM at** 16.0 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-12	0	13:30	1.2	110	492.198	99	97	1.7	250	78	3.0
	30		1.6	270				1.7			
	60			(170)	492.924						
	Max			(270)							
S-11	0	13:50	1.4	120	492.924	99	97	1.9	250	78	3.0
	30		1.7	170				2.2			
	60			(165)	493.701						
	Max			(190)							
S-10	0	14:02	1.5	115	493.701	99	97	2.1	250	78	3.0
	30		1.5	165				1.8			
	60			(155)	494.484						
	Max			(185)							
S-9	0	14:15	1.2	110	494.484	99	97	2.1	250	78	3.0
	30		1.2	700				1.2			
	60			(350)	495.178						
	Max			(800)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 5 of 6)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/30/75 - 7/1/75
Filter Heater Setting: 250°F
Test Number: EPA Method 5 Sample-3
Probe Heater Setting: 250°F
Field Person: JBS
Nozzle Number: --, Dia. (in.): 0.189
Filter Number: A-147-34
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.70 (avg)
Meter Box No. RAC-I, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): 0
Ambient Temperature (°F): 85
Silica Gel Weight Gain (g): 17
Record all Data Every 0.5 Minutes
Leak Rate 0.015 CFM at 16.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-8	0	14:23	1.4	125	495.178	99	97	2.0	250	78	3.0
	30		1.6	305				1.7			
	60			(180)	495.925						
	Max			(315)							
S-7	0	14:48	1.4	100	495.925	99	97	2.0	250	78	3.0
	30		1.5	255				1.7			
	60			(185)	496.680						
	Max			(275)							
S-6	0	15:13	1.4	120	496.680	99	97	1.9	250	78	3.0
	30		1.7	380				1.6			
	60			(210)	497.420						
	Max			(380)							
7/1/75 S-5	0	08:51	1.2	90	497.428	90	88	1.7	250	75	3.0
	30		1.2	145				1.6			
	60			(135)	498.137						
	Max			(160)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 6 of 6)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/1/75 - 7/2/75

Test Number: EPA Method 5 Sample-3

Field Person: JBS

Filter Number: A-147-34

Barometric Pressure ("Hg): 29.70 (avg)

Stack Static Pressure ("H_2O): -5.0

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature(°F): 95

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F

Probe Heater Setting: 250°F

Nozzle Number: -- ,Dia.(in.): 0.189

Pitot Tube No. 18 ,Corr.Factor: 0.838

Meter Box No. RAC-I,Corr.Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture(%): 1

Condensate Volume(ml): 0

Silica Gel Weight Gain(g): 17

Leak Rate 0.015 CFM at 16.5 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	09:35	1.2	100	498.142	97	95	1.7	250	75	3.0
	30		1.6	440				1.5			
	60			(205)	498.853						
	Max			(440)							
7/2/75 S-3	0	09:21	1.1	90	498.858	98	96	1.6	250	70	3.0
	30		1.7	410				1.6			
	60			(350)	499.619						
	Max			(410)							
S-2	0	09:28	1.2	110	499.619	98	96	1.7	250	70	3.0
	30		1.4	410				1.6			
	60			(185)	500.361						
	Max			(415)							
S-1	0	09:46	1.2	105	500.362	99	97	1.7	250	70	3.0
	30		1.0	170				1.3			
	60			(180)	501.041						
	Max			(190)							
AVERAGE (TOTAL)				209	(17.109)	96	94	1.7	252	77	2.8

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/2/75

Test Number: EPA Method 5 Sample-4

Field Person: JBS

Filter Number: A-147-12

Barometric Pressure ("Hg): 29.46 (avg)

Stack Static Pressure ("H_2O): -5.0

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F

Probe Heater Setting: 250°F

Nozzle Number: --, Dia. (in.): 0.189

Pitot Tube No. 18, Corr. Factor: 0.838

Meter Box No. RAC-1, Corr. Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture(%): 1

Condensate Volume(ml): -2

Silica Gel Weight Gain(g): 17

Leak Rate 0.020 CFM at 17.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	13:27	1.4	110	501.338	94	92	2.0	250	70	2.5
	30		1.5	180				1.8			
	60			(155)	502.125						
	Max			(195)							
T-7	0	13:35	1.4	110	502.128	95	93	2.0	250	70	2.5
	30		1.6	155				2.1			
	60			(130)	502.928						
	Max			(165)							
T-6	0	13:45	0.8	110	502.928	96	94	1.1	250	70	2.5
	30		0.9	200				1.1			
	60			(140)	503.553						
	Max			(240)							
T-5	0	13:55	1.0	110	503.553	97	95	1.4	250	70	2.5
	30		1.5	200				1.8			
	60			(155)	504.263						
	Max			(225)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/2/75 **Filter Heater Setting:** 250°F

Test Number: EPA Method 5 Sample-4 **Probe Heater Setting:** 250°F

Field Person: JBS **Nozzle Number:** -- ,**Dia.(in.):** 0.189

Filter Number: A-147-12 **Pitot Tube No.** 18 ,**Corr.Factor:** 0.838

Barometric Pressure ("Hg): 29.46 (avg) **Meter Box No.** RAC-I,**Corr.Factor:** 0.974

Stack Static Pressure ("H_2O): -5.0 **Meter Isokinetic Factor:** 1720

Stack Dimensions: 66" I.D. **Assumed Moisture(%):** 1

Plume Appearance: -- **Condensate Volume(ml):** -2

Ambient Temperature(°F): -- **Silica Gel Weight Gain(g):** 17

Record all Data Every 0.5 **Minutes** **Leak Rate** ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	14:15	1.3	110	504.265	99	97	1.8	250	70	2.5
	30		1.7	380				1.6			
	60			(200)	505.004						
	Max			(380)							
T-3	0	14:42	1.2	105	505.008	101	98	1.7	250	70	2.5
	30		1.7	260				1.9			
	60			(155)	505.749						
	Max			(260)							
T-2	0	14:55	1.2	110	505.749	102	100	1.7	250	70	2.5
	30		1.5	200				1.8			
	60			(150)	506.503						
	Max			(220)							
T-1	0	15:05	1.2	110	506.503	102	100	1.7	250	70	2.5
	30		1.4	170				1.75			
	60			(135)	507.254						
	Max			(185)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/2/75 - 7/3/75
Filter Heater Setting: 250°F
Test Number: EPA Method 5 Sample-4
Probe Heater Setting: 250°F
Field Person: JBS
Nozzle Number: --, Dia.(in.): 0.189
Filter Number: A-147-12
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.46 (avg)
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture(%): 1
Plume Appearance: --
Condensate Volume(ml): -2
Ambient Temperature(°F): --
Silica Gel Weight Gain(g): 17
Record all Data Every 0.5 Minutes
Leak Rate 0.020 CFM at 16.5 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-8	0	15:35	1.3	100	507.256	102	100	1.9	250	70	2.5
	30		1.6	200							
	60			(190)	508.028						
	Max			(310)							
S-7	0	15:45	1.4	105	508.031	102	100	2.0	250	70	2.5
	30		1.7	200							
	60			(220)	508.842						
	Max			(280)							
7/3 S-6	0	08:38	1.4	80	509.318	98	96	2.1	250	70	2.5
	30		1.6	175				1.95			
	60			(130)	510.120						
	Max			(200)							
S-5	0	09:03	1.4	85	510.120	98	96	2.05	250	70	2.5
	30		1.4	130				1.9			
	60			(155)	510.902						
	Max			(170)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/3/75

Test Number: EPA Method 5 Sample-4

Field Person: JBS

Filter Number: A-147-12

Barometric Pressure ("Hg): 29.46 (avg)

Stack Static Pressure ("H_2O): -5.0

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F

Probe Heater Setting: 250°F

Nozzle Number: -- , Dia. (in.): 0.189

Pitot Tube No. 18, Corr. Factor: 0.838

Meter Box No. RAC-1, Corr. Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture(%): 1

Condensate Volume(ml): -2

Silica Gel Weight Gain(g): 17

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	09:39	1.4	90	510.902	98	96	2.0	250	70	2.5
	30		1.6	160				2.1			
	60			(120)	511.700						
	Max			(170)							
S-3	0	09:54	1.2	90	511.700	98	96	1.75	250	70	2.5
	30		1.4	140				1.8			
	60			(120)	512.434						
	Max			(160)							
S-2	0	10:06	1.2	90	512.434	98	96	1.75	250	70	2.5
	30		1.3	195				1.6			
	60			(140)	513.177						
	Max			(210)							
S-1	0	10:27	1.0	90	513.177	98	96	1.5	250	70	2.5
	30		1.4	325				1.5			
	60			(160)	513.872						
	Max			(330)							
AVERAGE (TOTAL)				152	(11.731)	99	97	1.8	250	70	2.5

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/8/75

Test Number: EPA Method 5 Sample-5

Field Person: RCM

Filter Number: A-147-13

Barometric Pressure ("Hg): 29.31

Stack Static Pressure ("H_2O): -4.2

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F

Probe Heater Setting: 250°F

Nozzle Number: --, Dia.(in.): 0.189

Pitot Tube No. 18, Corr. Factor: 0.838

Meter Box No. RAC-1, Corr. Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture(%): 1

Condensate Volume(ml): 8

Silica Gel Weight Gain(g): 5

Leak Rate 0.022 CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	09:28	1.25	90	515.018	88	82	1.85	200	73	3.0
	30		1.45	160				1.90			
	60		(0.30)	(150)	515.783						
	Max		(1.50)	(175)							
T-7	0	10:17	1.45	92	515.785	88	85	2.14	225	74	3.0
	30		1.55	150				2.08			
	60		(1.40)	(125)	516.618						
	Max		(1.60)	(160)							
T-6	0	10:33	1.40	95	516.618	100	98	2.10	205	75	3.3
	30		1.45	140				2.01			
	60		(1.35)	(125)	517.417						
	Max		(1.50)	(155)							
T-5	0	10:43	1.40	95	517.418	98	98	2.09	205	76	3.5
	30		1.50	185							
	60		(0.5)	(140)	518.210			1.93			
	Max		(1.55)	(205)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/8/75
Test Number: EPA Method 5 Sample-5
Field Person: RCM
Filter Number: A-147-13
Barometric Pressure ("Hg): 29.31
Stack Static Pressure ("H_2O): -4.2
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: --, Dia.(in.): 0.189
Pitot Tube No. 18, Corr.Factor: 0.838
Meter Box No. RAC-1, Corr.Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): 8
Silica Gel Weight Gain(g): 5
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
T-4	0	10:56	1.30	94	518.211	98	98	1.95	200	74	3.5
	30		1.55	225				1.88			
	60		(1.30)	(140)	519.019						
	Max		(1.65)	(235)							
T-3	0	11:41	1.35	96	519.021	101	98	2.02	205	75	3.5
	30		1.45	175				1.90			
	60		(1.35)	(130)	519.802						
	Max		(1.45)	(185)							
T-2	0	12:13	1.30	98	519.802	101	98	1.94	185	76	3.5
	30		1.4	170				1.85			
	60		(0.2)	(145)	520.605						
	Max		(1.45)	(180)							
T-1	0	12:45	1.05	95	520.605	101	99	1.58	175	78	3.5
	30		1.15	150				1.56			
	60		(0.8)	(130)	521.304						
	Max		(1.20)	(165)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/8/75
Test Number: EPA Method 5 Sample-5
Field Person: RCM
Filter Number: A-147-13
Barometric Pressure ("Hg): 29.31
Stack Static Pressure ("H_2O): -4.2
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes
Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: -- , Dia.(in.): 0.189
Pitot Tube No. 18, Corr. Factor: 0.838
Meter Box No. RAC-I, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): 8
Silica Gel Weight Gain(g): 5
Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-8	0	13:05	1.35	98	521.305	101	99	2.02	215	78	3.5
	30		1.45	210				1.81			
	60		(1.30)	(145)	522.085						
	Max		(1.50)	(225)							
S-7	0	13:20	1.40	102	522.086	101	99	2.08	205	79	4.0
	30		1.7	200				2.16			
	60		(1.35)	(150)	522.902						
	Max		(1.7)	(225)							
S-6	0	13:35	1.3	100	522.902	101	99	1.94	215	81	4.0
	30		1.45	190				1.85			
	60		(1.3)	(145)	523.671						
	Max		(1.45)	(210)							
S-5	0	13:45	1.35	103	523.672	101	99	2.00	215	82	4.0
	30		1.45	175				1.90			
	60		(1.30)	(155)	524.452						
	Max		(1.55)	(215)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/8/75
Filter Heater Setting: 250°F
Test Number: EPA Method 5 Sample-5
Probe Heater Setting: 250°F
Field Person: RCM
Nozzle Number: -- , Dia. (in.): 0.189
Filter Number: A-147-13
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.31
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -4.2
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): 8
Ambient Temperature (°F): --
Silica Gel Weight Gain (g): 5
Record all Data Every 0.5 Minutes
Leak Rate 0.015 CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-4	0	14:03	1.30	105	524.452	101	99	1.92	210	82	4.0
	30		1.45	170				1.92			
	60		(1.30)	(135)	525.235						
	Max		(1.45)	(195)							
S-3	0	14:21	1.25	104	525.237	101	99	1.85	210	82	4.0
	30		1.35	135				1.89			
	60		(1.30)	(170)	526.027						
	Max		(1.40)	(185)							
S-2	0	14:40	1.15	100	526.029	101	99	1.72	200	83	4.5
	30		1.45	200				1.82			
	60		(1.3)	(150)	526.786						
	Max		(1.45)	(215)							
S-1	0	14:49	1.05	100	526.804	102	101	1.56	215	83	4.5
	30		1.25	180				1.63			
	60		(0.2)	(145)	527.538						
	Max		(1.30)	(205)							
AVERAGE (TOTAL)				137	(12.164)	99	97	1.90	205	78	3.7

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/10/75

Test Number: EPA Method 5 Sample-6

Field Person: RCM

Filter Number: A-190-14

Barometric Pressure ("Hg): 29.33

Stack Static Pressure ("H_2O): -4.7

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F

Probe Heater Setting: 250°F

Nozzle Number: --, Dia.(in.): 0.187

Pitot Tube No. 18, Corr. Factor: 0.838

Meter Box No. RAC-1, Corr. Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture(%): 1

Condensate Volume(ml): 0

Silica Gel Weight Gain(g): 14.5

Leak Rate 0.005 CFM at 16.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	09:40	1.20	78	540.605	72	70	1.76	200	68	3.0
	30		1.50	175				1.86			
	60		(1.20)	(140)	541.347						
	Max		(1.60)	(215)							
T-7	0	09:53	1.60	83	541.348	80	75	2.36	210	70	3.0
	30		1.95	450				1.72			
	60		(1.60)	(175)	542.141						
	Max		(2.05)	(470)							
T-6	0	10:17	1.30	85	542.143	82	78	1.92	215	71	3.0
	30		1.60	190				1.98			
	60		(1.30)	(130)	542.919						
	Max		(1.65)	(205)							
T-5	0	10:45	1.25	80	542.923	82	82	1.87	215	73	3.2
	30		1.45	150				1.92			
	60		(1.25)	(125)	543.676						
	Max		(1.50)	(175)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/10/75
Test Number: EPA Method 5 Sample-6
Field Person: RCM
Filter Number: A-190-14
Barometric Pressure ("Hg): 29.33
Stack Static Pressure ("H_2O): -4.7
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: --, Dia. (in.): 0.187
Pitot Tube No. 18, Corr. Factor: 0.838
Meter Box No. RAC-I, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture (%): 1
Condensate Volume (ml): 0
Silica Gel Weight Gain (g): 14.5
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	10:57	1.20	80	543.678	90	90	1.82	215	76	3.3
	30		1.40	135				1.93			
	60		(1.25)	(110)	544.437						
	Max		(1.40)	(145)							
T-3	0	11:07	1.25	80	544.438	90	90	1.90	225	78	3.5
	30		1.4	135				1.93			
	60		(1.25)	(105)	545.200						
	Max		--	--							
T-2	0	11:20	1.20	82	545.200	92	92	1.82	220	78	3.5
	30		1.45	170				1.89			
	60		(1.20)	(140)	545.964						
	Max		(1.45)	(200)							
T-1	0	12:42	1.05	80	545.965	83	83	1.57	225	80	3.5
	30		1.30	130				1.78			
	60		(1.05)	(110)	546.733						
	Max		(1.35)	(150)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/10/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-6

Probe Heater Setting: 250°F

Field Person: RCM

Nozzle Number: --, Dia. (in.): 0.187

Filter Number: A-190-14

Pitot Tube No. 18, Corr. Factor: 0.838

Barometric Pressure ("Hg): 29.33

Meter Box No. RAC-I, Corr. Factor: 0.974

Stack Static Pressure ("H_2O): -4.7

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture (%): 1

Plume Appearance: --

Condensate Volume (ml): 0

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): 14.5

Record all Data Every 0.5 Minutes

Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-8	0	12:52	1.60	90	546.733	84	80	2.35	220	76	4.0
	30		1.75	140				2.36			
	60		(1.55)	(115)	547.582						
	Max		(1.75)	(160)							
S-7	0	13:37	1.60	92	547.583	95	90	2.39	215	76	4.0
	30		2.2	300				2.39			
	60		(1.65)	(170)	548.446						
	Max		(2.2)	(340)							
S-6	0	13:58	1.5	95	548.447	90	90	2.21	205	78	4.0
	30		1.7	200				2.11			
	60		(1.40)	(145)	549.269						
	Max		(1.75)	(230)							
S-5	0	14:10	1.35	95	549.270	90	90	1.99	205	79	4.0
	30		1.55	155				2.07			
	60		(1.35)	(130)	550.050						
	Max		(1.6)	(175)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/10/75
Test Number: EPA Method 5 Sample-6
Field Person: RCM
Filter Number: A-190-14
Barometric Pressure ("Hg): 29.33
Stack Static Pressure ("H_2O): -4.7
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: --, Dia. (in.): 0.187
Pitot Tube No. 18, Corr. Factor: 0.838
Meter Box No. RAC-I, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture (%): 1
Condensate Volume (ml): 0
Silica Gel Weight Gain (g): 14.5
Leak Rate 0.001 CFM at 15.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	14:24	1.20	95	550.050	90	90	1.77	205	79	4.0
	30		1.40	145				1.89			
	60		(1.20)	(120)	550.781						
	Max		(1.40)	(155)							
S-3	0	14:36	1.2	90	550.781	91	90	1.79	210	79	4.0
	30		1.55	320				1.63			
	60		(1.2)	(170)	551.521						
	Max		(1.6)	(345)							
S-2	0	14:52	1.15	95	551.523	92	90	1.70	210	79	4.0
	30		1.4	170				1.82			
	60		(1.2)	(140)	552.251						
	Max		(1.4)	(180)							
S-1	0	15:05	0.95	95	552.252	92	90	1.41	210	80	4.0
	30		1.2	170				1.56			
	60		(0.92)	(140)	552.919						
	Max		(1.25)	(185)							
AVERAGE (TOTAL)				142	(11.977)	87	86	1.92	213	76	3.6

SAMPLING TRAIN DATA

Company: Ford Motor Company (Page 1 of 4)

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/14/75 Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-7 Probe Heater Setting: 250°F

Field Person: RCM/FIC Nozzle Number: -- ,Dia.(in.): 0.187

Filter Number: A-190-08 Pitot Tube No. 18 ,Corr.Factor: 0.838

Barometric Pressure ("Hg): 29.63 Meter Box No. RAC-1, Corr.Factor: 0.974

Stack Static Pressure ("H_2O): -4.5 Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D. Assumed Moisture(%): 1

Plume Appearance: -- Condensate Volume(ml): -1

Ambient Temperature(°F): -- Silica Gel Weight Gain(g): 14.5

Record all Data Every 0.5 Minutes Leak Rate 0.005 CFM at 17.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft³)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	08:40	1.30	70	554.153	70	70	1.95	195	68	3.2
	30		1.70	170		(70)	(70)	2.13	(195)	(68)	(3.2)
	60		(1.30)	(80)	554.922	(70)	(70)		(195)	(68)	(3.2)
	Max		(1.75)	(180)							
T-7	0	09:23	1.40	70	554.925	78	74	2.11	200	66	3.2
	30		1.55	130				2.09			
	60		(1.35)	(65)	555.735						
	Max		(1.55)	(135)							
T-6	0	09:32	1.35	73	555.737	80	80	2.04	200	68	3.2
	30		1.75	340				1.76			
	60		(0.3)	(95)	556.509						
	Max		(1.75)	(365)							
T-5	0	09:50	1.25	70	556.512	80	80	1.90	215	68	3.3
	30		1.45	190				1.80			
	60		(1.25)	(75)	557.272						
	Max		(1.50)	(205)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/14/75
Test Number: EPA Method 5 Sample-7
Field Person: RCM
Filter Number: A-190-08
Barometric Pressure ("Hg): 29.63
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 Minutes
Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: --, Dia. (in.): 0.187
Pitot Tube No. 18, Corr. Factor: 0.838
Meter Box No. RAC-1, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture (%): 1
Condensate Volume (ml): -1
Silica Gel Weight Gain (g): 14.5
Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	10:22	1.20	65	557.273	74	72	1.82	215	70	3.5
	30		1.45	180				1.80			
	60		(1.25)	(75)	558.020						
	Max		(1.50)	(190)							
T-3	0	10:33	1.20	62	558.023	80	78	1.85	210	71	3.5
	30		1.45	155				1.89			
	60		(1.20)	(72)	558.773						
	Max		(1.45)	(155)							
T-2	0	10:58	1.15	70	558.773	80	78	1.74	205	72	3.5
	30		1.35	165				1.73			
	60		(1.10)	(85)	559.497						
	Max		(1.35)	(175)							
T-1	0	11:10	1.00	67	559.499	80	80	1.53	205	71	3.5
	30		1.30	240				1.49			
	60		(1.0)	(85)	560.183						
	Max		(1.30)	(245)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/14/75
Filter Heater Setting: 250°F
Test Number: EPA Method 5 Sample-7
Probe Heater Setting: 250°F
Field Person: RCM
Nozzle Number: -- , Dia. (in.): 0.187
Filter Number: A-190-08
Pitot Tube No. 18 , Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.63
Meter Box No. RAC-I, Corr. Factor 0.974
Stack Static Pressure ("H_2O): -4.5
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): -1
Ambient Temperature (°F): --
Silica Gel Weight Gain (g): 14.5
Record all Data Every 0.5 Minutes
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-8	0	12:45	1.45	77	560.186	80	80	2.17	210	68	3.5
	30		1.65	175				2.09			
	60		(1.45)	(90)	560.999						
	Max		(1.70)	(185)							
S-7	0	12:55	1.40	80	561.000	80	80	2.08	215	66	3.5
	30		1.55	155				2.03			
	60		(1.40)	(100)	561.770						
	Max		(1.60)	(180)							
S-6	0	13:18	1.35	80	561.773	80	80	2.01	200	68	3.5
	30		1.6	180				2.01			
	60		(0.2)	(90)	562.554						
	Max		(1.6)	(185)							
S-5	0	13:38	1.25	80	562.555	80	80	1.86	205	68	3.5
	30		1.45	250				1.64			
	60		(1.30)	(90)	563.298						
	Max		(1.50)	(260)							
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/14/75
Test Number: EPA Method 5 Sample-7
Field Person: RCM
Filter Number: A-190-08
Barometric Pressure ("Hg): 29.63
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: -- ,Dia.(in.): 0.187
Pitot Tube No. 18 ,Corr.Factor: 0.838
Meter Box No. RAC-1, Corr.Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): -1
Silica Gel Weight Gain(g): 14.5
Leak Rate 0.005 CFM at 15.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	13:47	1.15	80	563.300	80	80	1.71	215	70	3.8
	30		1.30	170				1.66			
	60		(1.15)	(85)	564.021						
	Max		(1.30)	(185)							
S-3	0	13:58	1.15	80	564.022	80	80	1.71	215	72	3.8
	30		1.40	210				1.68			
	60		(1.15)	(85)	564.735						
	Max		(1.45)	(220)							
S-2	0	14:10	1.15	75	564.737	80	80	1.73	215	73	4.0
	30		1.35	180				1.70			
	60		(1.1)	(95)	565.474						
	Max		(1.40)	(195)							
S-1	0	14:24	0.95	83	565.475	80	80	1.41	215	72	4.0
	30		1.15	100				1.51			
	60		(0.98)	(95)	566.146						
	Max		(1.1)	(100)							
AVERAGE (TOTAL)				130	(11.654)	79	78	1.83	208	69	3.5

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/15/75

Test Number: EPA Method 5 Sample-8

Field Person: FIC/GMS

Filter Number: A-190-01

Barometric Pressure ("Hg): 29.60

Stack Static Pressure ("H_2O): -4.5

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature (°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F

Probe Heater Setting: 250°F

Nozzle Number: --, Dia. (in.): 0.187

Pitot Tube No. 18, Corr. Factor: 0.838

Meter Box No. RAC-1, Corr. Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture (%): 1

Condensate Volume (ml): -1

Silica Gel Weight Gain (g): 17.6

Leak Rate <0.005 CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	08:30	1.1	70	566.482	74	72	2.0	250	68	
	30		1.4	140	566.9	74	72	2.1	250	68	
	60		(1.2)	(120)	567.426	(74)	(72)	(2.0)	(250)	(68)	
	Max		(1.4)	(140)							
T-7	0	08:47	1.4	80	567.426	84	76	2.0	250	68	
	30		1.6	130	567.8	84	76	2.1	250	68	
	60		(1.4)	(130)	568.248	(84)	(76)	(2.1)	(250)	(68)	
	Max		(1.6)	(140)							
T-6	0	09:20	1.1	80	568.248	94	84	1.6	250	68	
	30		1.5	260	568.6	94	84	1.7	250	68	
	60		(1.1)	(110)	569.050	(94)	(84)	(1.6)	(250)	(68)	
	Max		(1.9)	(270)							
T-5	0	09:29	1.1	110	569.050	94	84	1.5	250	68	
	30		1.4	180	569.3	94	84	1.6	250	68	
	60		(1.1)	(110)	569.777	(94)	(84)	(1.6)	(250)	(68)	
	Max		(1.4)	(180)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/15/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-8

Probe Heater Setting: 250°F

Field Person: FIC/GMS

Nozzle Number: -- **, Dia. (in.):** 0.187

Filter Number: A-190-01

Pitot Tube No. 18 **, Corr. Factor:** 0.838

Barometric Pressure ("Hg): 29.60

Meter Box No. RAC-1 **, Corr. Factor:** 0.974

Stack Static Pressure ("H_2O): -4.5

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture (%): 1

Plume Appearance: --

Condensate Volume (ml): -1

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): 17.6

Record all Data Every 0.5 **Minutes**

Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	09:58	1.1	80	569.777	94	90	1.7	250	72	
	30		1.4	140	570.1	94	90	1.8	250	72	
	60		(1.1)	(110)	570.505	(94)	(90)	(1.7)	(250)		
	Max		(1.4)	(140)							
T-3	0	10:54	1.1	90	570.505	94	90	1.6	250	76	
	30		1.6	200	570.2	94	90	1.7	250	76	
	60		(1.2)	(90)	571.261	(94)	(90)	(1.7)	(250)	(76)	
	Max		(1.6)	(220)							
T-2	0	11:04	1.1	90	571.261	96	92	1.6	250	76	2.2
	30		1.5	240	571.5	96	92	1.8	250	76	
	60		(1.3)	(120)	571.933	(96)	(92)	(1.7)	(250)	(76)	
	Max		(1.5)	(240)							
T-1	0	11:25	1.0	90	571.933	100	95	1.5			2.2
	30		1.2	190				1.6			
	60		(1.1)	(100)	572.62	(100)	(95)	(1.5)			
	Max		(1.2)	(190)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/15/75
Test Number: EPA Method 5 Sample-8
Field Person: FIC/GMS
Filter Number: A-190-01
Barometric Pressure ("Hg): 29.60
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: -- ,Dia.(in.): 0.187
Pitot Tube No. 18 ,Corr.Factor: 0.838
Meter Box No. RAC-I, Corr.Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): -1
Silica Gel Weight Gain(g): 17.6
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-8	0	11:40	1.4	90	572.620	100	94	1.9	250	76	2.2
	30		1.9	190	573.0	100	96	2.0	250	76	
	60		(1.3)	(110)	573.362	(100)	(94)	(1.8)	(250)	(76)	
	Max		(1.9)	(190)							
S-7	0	11:56	1.5	90	573.362	100	94	2.1	250	76	2.4
	30		1.8	220	573.8	100	94	2.8	250	76	2.4
	60		(1.5)	(110)	574.188	(100)	(94)	(2.3)	(250)	(76)	
	Max		(1.8)	(220)							
S-6	0	13:00	1.4	90	574.188	100	98	2.1	250	76	2.4
	30		1.5	150	574.5	100	98	2.2	250	76	
	60		(1.4)	(110)	574.963	(100)	(98)	(2.1)	(250)	(76)	
	Max										
S-5	0	13:25	1.1	90	574.963	100	98	1.6	250	76	
	30		1.4	220	575.3	100	98	1.7	200	76	
	60		(1.3)	(120)	575.732	(100)	(98)	(1.6)	(250)	(76)	
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/15/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-8

Probe Heater Setting: 250°F

Field Person: FIC/GMS

Nozzle Number: --, Dia. (in.): 0.187

Filter Number: A-190-01

Pitot Tube No. 18, Corr. Factor: 0.838

Barometric Pressure ("Hg): 29.60

Meter Box No. RAC-I, Corr. Factor: 0.974

Stack Static Pressure ("H_2O): -4.5

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture (%): 1

Plume Appearance: --

Condensate Volume (ml): -1

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): 17.6

Record all Data Every 0.5 Minutes

Leak Rate <0.005 CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	13:33	1.1	90	575.733	100	98	1.6	250	81	2.4
	30		1.5	220	576.0	100	98	1.7	250	81	
	60		(1.2)	(110)	576.480	(100)	(98)	(1.6)	(250)	(81)	
	Max		(1.5)	(240)							
S-3	0	13:45	1.1	90	576.480	104	100	1.6	250	81	2.4
	30		1.5	220	576.8	104	100	1.7	250	81	
	60		(1.2)	(110)	577.180	(104)	(100)	(1.6)	(250)	(81)	
	Max		(1.5)	(220)							
S-2	0	14:04	1.1	100	577.180	104	100	1.6	250	81	
	30		1.4	240	577.5	104	100	1.7	250	81	
	60		(1.1)	(100)	577.890	(104)	(100)	(1.6)	(250)	(81)	
	Max		(1.4)	(240)							
S-1	0	14:09	0.85	100	577.890	104	100	1.2	250	81	
	30		1.0	210	578.1	104	100	1.3	200	81	
	60		(0.90)	(110)	578.544	(104)	(100)	(1.2)	(250)	(81)	
	Max		(1.1)	(210)							
AVERAGE (TOTAL)				143	(11.747)	96	92	1.8	245	75	2.3

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/16/75
Test Number: EPA Method 5 Sample-9
Field Person: FIC/GMS
Filter Number: A-190-12
Barometric Pressure ("Hg): 29.60
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: --, Dia. (in.): 0.187
Pitot Tube No. 18, Corr. Factor: 0.838
Meter Box No. RAC-1, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture (%): 1
Condensate Volume (ml): -1
Silica Gel Weight Gain (g): 16
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-8	0	08:24	1.05	70	578.956	80	80	1.5	250	68	
	30		1.3	160	579.3	80	80	1.6	250	68	
	60		(1.1)	(100)	579.700	(80)	(80)	(1.5)	(250)	(68)	
	Max		(1.3)	(160)							
T-7	0	08:40	1.4	80	579.700	86	85	2.1	250	68	2.8
	30		1.5	150	580.1	86	85	2.2	250	68	
	60		(1.4)	(110)	580.500	(86)	(85)	(2.1)	(250)	(68)	
	Max		(1.6)	(160)							
T-6	0	08:53	1.3	90	580.500	90	88	1.9	250	68	2.8
	30		1.6	300	580.8	90	88	1.8	250	68	
	60		(1.5)	(100)	581.271	(90)	(88)	(1.9)	(250)	(68)	
	Max		(1.6)	(420)							
T-5	0	09:34	1.3	80	581.271	94	92	2.0	250	68	2.4
	30		1.5	220	581.6	94	92	2.1	250	68	
	60		(1.2)	(120)	582.05	(94)	(92)	(2.0)	(250)	(68)	
	Max		(1.5)	(220)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 7/16/75

Filter Heater Setting: 250°F

Test Number: EPA Method 5 Sample-9

Probe Heater Setting: 250°F

Field Person: FIC/GMS

Nozzle Number: -- , **Dia. (in.):** 0.187

Filter Number: A-190-12

Pitot Tube No. 18, **Corr. Factor:** 0.838

Barometric Pressure ("Hg): 29.60

Meter Box No. RAC-I, **Corr. Factor:** 0.974

Stack Static Pressure ("H_2O): -4.5

Meter Isokinetic Factor: 1720

Stack Dimensions: 66" I.D.

Assumed Moisture (%): 1

Plume Appearance: --

Condensate Volume (ml): -1

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): 16

Record all Data Every 0.5 **Minutes**

Leak Rate ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	09:41	1.3	290	582.05	96	96	1.8	250	70	2.8
	30		1.4	220	582.4	96	96	1.9	250	70	
	60		(1.3)	(90)	582.81	(96)	(96)	(1.8)	(250)	(70)	
	Max										
T-3	0	09:52	1.3	90	582.81	98	98	1.8	250	70	2.8
	30		1.4	200	583.1	98	98	1.9	250	70	
	60		(1.3)	(120)	583.579	(98)	(98)	(1.8)	(250)	(70)	
	Max										
T-2	0	10:06	1.05	90	583.579	100	99	1.5	250	70	2.6
	30		1.2	190	583.9	100	99	1.6	250	70	
	60		(1.1)	(100)	584.27	(100)	(99)	(1.5)	(250)	(70)	
	Max		(1.2)	(190)							
T-1	0	10:35	0.85	90	584.27	104	100	1.2	250	70	2.4
	30		1.2	160	584.5	104	100	1.3	250	70	
	60		(0.9)	(110)	584.91	(104)	(100)	(1.2)	(250)	(70)	
	Max		(1.2)	(160)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/16/75
Test Number: EPA Method 5 Sample-9
Field Person: FIC/GMS
Filter Number: A-190-12
Barometric Pressure ("Hg): 29.60
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250°F
Probe Heater Setting: 250°F
Nozzle Number: --, Dia.(in.): 0.187
Pitot Tube No. 18, Corr. Factor: 0.838
Meter Box No. RAC-1, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): -1
Silica Gel Weight Gain(g): 16
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-8	0	10:50	1.2	90	584.91	102	100	1.5	250	76	2.4
	30		1.9	>600		102	100	1.6	250	76	
	60		(1.3)	(130)	585.65	(102)	(100)	(1.5)	(250)	(76)	
	Max		(1.9)	(>600)							
S-7	0	11:09	1.4	100	585.65	102	100	2.0	250	76	2.4
	30		1.5	210	585.9	102	100	2.1	250	76	
	60		(1.5)	(110)	586.3	(102)	(100)	(2.0)	(250)	(76)	
	Max		(1.5)	(210)							
S-6	0	11:23	1.2	100	586.3	102	100	1.7	250	76	2.4
	30		1.3	210	586.8	102	100	1.8	250	76	
	60		(1.2)	(110)	587.05	(102)	(100)	(1.7)	(250)	(76)	
	Max		(1.2)	(220)							
S-5	0	11:37	1.1	100	587.05	102	100	1.65	250	76	2.4
	30		1.35	210		102	100	1.7	250	76	
	60		(1.1)	(110)	587.76	(102)	(100)	(1.65)	(250)	(76)	
	Max			(210)							
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 7/16/75 **Filter Heater Setting:** 250°F
Test Number: EPA Method 5 Sample-9. **Probe Heater Setting:** 250°F
Field Person: FIC/GMS **Nozzle Number:** -- **, Dia. (in.):** 0.187
Filter Number: A-190-12 **Pitot Tube No.** 18 **, Corr. Factor:** 0.838
Barometric Pressure ("Hg): 29.60 **Meter Box No.** RAC-I **, Corr. Factor:** 0.974
Stack Static Pressure ("H_2O): -4.5 **Meter Isokinetic Factor:** 1720
Stack Dimensions: 66" I.D. **Assumed Moisture (%):** 1
Plume Appearance: -- **Condensate Volume (ml):** -1
Ambient Temperature (°F): -- **Silica Gel Weight Gain (g):** 16
Record all Data Every 0.5 **Minutes** **Leak Rate** <0.02 **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	12:03	1.2	100	587.76	104	102	1.7	250	76	2.4
	30		1.3	170		104	102	1.8	250	76	
	60		(1.2)	(110)	588.52	(104)	(102)	(1.7)	(250)	(76)	
	Max										
S-3	0	12:17	1.2	110	588.52	104	102	1.7	250	76	
	30		1.6	320	588.9	104	102	1.8	250	76	
	60		(1.3)	(120)	589.3	(104)	(102)	(1.7)	(250)	(76)	
	Max		(1.6)	(320)							
S-2	0	13:40	1.05	100	589.3	108	106	1.5	250	76	
	30		1.4	190	589.6	108	106	1.6	250	76	
	60		(1.1)	(110)	589.98	(108)	(106)	(1.5)	(250)	(76)	
	Max		(1.4)	(190)							
S-1	0	13:48	0.95	100	589.98	108	106	1.5	250	76	2.4
	30		1.2	190		108	106	1.6	250	76	
	60		(1.0)	(110)	590.700	(108)	(106)	(1.5)	(250)	(76)	
	Max										
AVERAGE (TOTAL)				168	(11.439)	99	97	1.7	250	72	2.5

SAMPLING TRAIN DATA

(Page 1 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/24/75
Test Number: EPA Method 5 Sample-1
Field Person: RJG
Filter Number: A-147-24
Barometric Pressure ("Hg): Avg. 29.78
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 **Minutes**

Filter Heater Setting: 250
Probe Heater Setting: 75
Nozzle Number: -- **,Dia.(in.):** 0.256
Pitot Tube No. 19**,Corr.Factor:** 0.854
Meter Box No. RAC-4**,Corr.Factor:** 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%):
Condensate Volume(ml): 2
Silica Gel Weight Gain(g): 16
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
E-6	0	09:43	0.35	124	657.919	78	78	1.61	245	82	1.0
	30		0.35	130		78	78	1.57	245	82	1.0
	60				658.616						
E-5	0	10:36	0.33	125	658.663	84	84	1.54	260	82	1.0
	30		0.33	136		84	84	1.50	260	82	1.0
	60				659.347						
E-4	0	10:52	0.27	125	659.356	85	85	1.27	245	88	1.0
	30		0.27	127		85	85	1.26	245	88	1.0
	60				660.004						
E-3	0	11:03	0.23	124	660.024	85	85	1.07	230	88	1.0
	30		0.23	127		85	85	1.07	230	88	1.0
	60				660.597						
E-2	0	11:17	0.18	125	660.606	85	85	0.84	275	88	1.0
	30		0.18	126		85	85	0.84	275	88	1.0
	60				661.128						
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/24/75
Test Number: EPA Method 5 Sample-1
Field Person: RJG
Filter Number: A-147-24
Barometric Pressure ("Hg): Avg. 29.78
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 **Minutes**

Filter Heater Setting: 250
Probe Heater Setting: 75
Nozzle Number: -- **, Dia. (in.):** 0.256
Pitot Tube No. 19 **, Corr. Factor:** 0.854
Meter Box No. RAC-4 **, Corr. Factor:** 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture (%):
Condensate Volume (ml): 2
Silica Gel Weight Gain (g): 16
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
E-1	0	11:32	0.16	125	661.144	84	84	0.74	275	90	1.0
	30		0.16	125		84	84	0.74	275	90	1.0
	60				661.637						
N-6	0	11:46	0.68	125	661.653	85	85	3.17	265	92	1.0
	30		0.68	130		85	85	3.12	265	92	1.0
	60				662.634						
N-5	0	11:58	0.77	125	662.648	86	86	3.59	265	92	1.0
	30		0.77	145		86	86	3.50	265	92	1.0
	60				663.678						
N-4	0	13:30	0.76	126	663.719	86	86	3.55	275	96	1.0
	30		0.76	125		86	86	3.55	275	96	1.0
	60				664.739						
N-3	0	13:40	0.65	126	664.769	88	88	3.04	260	92	1.0
	30		0.65	124		88	88	3.04	260	92	1.0
	60				665.741						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/24/75 - 6/25/75
Test Number: EPA Method 5 Sample-1
Field Person: RJG/GMS
Filter Number: A-147-24
Barometric Pressure ("Hg): Avg. 29.78
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250
Probe Heater Setting: 75
Nozzle Number: --, Dia. (in.): 0.256
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture (%):
Condensate Volume (ml): 2
Silica Gel Weight Gain (g): 16
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-2	0	14:26	0.60	125	665.794	84	84	2.79	270	74	1.0
	30		0.60	124		84	84	2.79	270	74	1.0
	60				666.729						
6/25											
N-1	0	09:46	0.41	125	666.751	80	80	1.89	250	70	1.0
	30		0.41	125		80	80	1.89	250	70	1.0
	60				667.488						
W-6	0	10:05	0.61	135	667.488	70	70	2.6	270	70	1.0
	30		0.61	135		70	70	2.6	270	70	1.0
	60				668.345						
W-5	0	10:18	0.70	130	668.345	70	70	2.7	274	75	1.0
	30		0.70	140		70	70	3.1	274	75	1.0
	60				669.166						
W-4	0	10:29	0.68	120	669.166	70	70	3.1	275	76	1.0
	30		0.68	120		70	70	3.1	275	76	1.0
	60				670.098						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 5)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/25/75

Test Number: EPA Method 5 Sample-1

Field Person: RJG/GMS

Filter Number: A-147-24

Barometric Pressure ("Hg): Avg. 29.78

Stack Static Pressure ("H_2O): -0.21

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature (°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250

Probe Heater Setting: 75

Nozzle Number: --, Dia. (in.): 0.256

Pitot Tube No. 19, Corr. Factor: 0.854

Meter Box No. RAC-4, Corr. Factor: 0.991

Meter Isokinetic Factor: 1685

Assumed Moisture (%):

Condensate Volume (ml): 2

Silica Gel Weight Gain (g): 16

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-3	0	10:40	0.68	140	670.098	70	70	3.0	250	77	1.0
	30		0.68	140		70	70	3.0	250	77	1.0
	60				671.044						
W-2	0	12:53	0.55	155	671.044	75	75	2.3	270	78	1.0
	30		0.55	135		75	75	2.0	270	78	1.0
	60				671.873						
W-1	0	13:10	0.40	140	671.873	75	75	1.6	250	81	1.0
	30		0.40	130		75	75	1.6	250	81	1.0
	60				672.572						
S-6	0	13:32	0.32	140	672.572	75	75	1.4	250	81	1.0
	30		0.32	140		75	75	1.4	250	81	1.0
	60				673.216						
S-5	0	13:42	0.30	130	673.216	75	75	1.1	250	82	1.0
	30		0.30	125		75	75	1.3	250	82	1.0
	60				673.811						
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 5 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/25/75
Filter Heater Setting: 250
Test Number: EPA Method 5 Sample-1
Probe Heater Setting: 75
Field Person: TRJ/GMS
Nozzle Number: -- ,Dia.(in.): 0.256
Filter Number: A-147-24
Pitot Tube No. 19 ,Corr.Factor: 0.854
Barometric Pressure ("Hg): Avg. 29.78
Meter Box No. RAC-4, Corr.Factor: 0.991
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture(%):
Plume Appearance: --
Condensate Volume(ml): 2
Ambient Temperature(°F): --
Silica Gel Weight Gain(g): 16
Record all Data Every 0.5 Minutes
Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	13:53	0.25	125	673.811	75	75	1.2	280	84	1.0
	30		0.25	145		75	75	1.1	280	84	1.0
	60				674.420						
S-3	0	14:03	0.20	135	674.420	76	76	0.90	255	81	1.0
	30		0.20	130		76	76	0.78	255	81	1.0
	60				674.916						
S-2	0	14:17	0.15	140	674.916	76	76	0.67	270	83	1.0
	30		0.15	165		76	76	0.67	270	83	1.0
	60				675.466						
S-1	0	14:28	0.15	130	675.466	76	76	0.60	270	83	1.0
	30		0.15	125		76	76	0.70	270	83	1.0
	60				675.894						
AVERAGE (TOTAL)				131	(17.539)	79	79	1.93	262	83	1.0

SAMPLING TRAIN DATA

(Page 1 of 5)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/26/75

Filter Heater Setting: 250

Test Number: EPA Method 5 Sample-2

Probe Heater Setting: 75

Field Person: RJG/GMS

Nozzle Number: -- **,Dia.(in.):** 0.256

Filter Number: A-147-32

Pitot Tube No. 19 **,Corr.Factor:** 0.854

Barometric Pressure ("Hg): Avg. 29.54

Meter Box No. RAC-4**,Corr.Factor:** 0.991

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1685

Stack Dimensions: 90" I.D.

Assumed Moisture(%):

Plume Appearance: --

Condensate Volume(ml): 2

Ambient Temperature(°F): --

Silica Gel Weight Gain(g): 18.5

Record all Data Every 0.5 **Minutes**

Leak Rate ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
E-6	0	09:25	0.40	123	676.022	70	70	1.75	250	75	1.0
	30		0.40	125		70	70	1.75	250	75	1.0
	60				676.738						
E-5	0	10:16	0.33	126	676.780	72	72	1.50	200	80	1.0
	30		0.33	130		72	72	1.48	200	80	1.0
	60				677.458						
E-4	0	10:39	0.28	120	677.474	74	74	1.28	255	78	1.0
	30		0.28	125		74	74	1.28	255	78	1.0
	60				678.135						
E-3	0	10:49	0.22	125	678.149	76	76	1.01	280	77	1.0
	30		0.22	120		76	76	1.00	280	77	1.0
	60				678.726						
E-2	0	11:02	0.18	123	678.733	78	78	0.83	235	76	1.0
	30		0.18	124		78	78	0.83	235	76	1.0
	60				679.292						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 5)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date:	6/26/75	Filter Heater Setting:	250
Test Number:	EPA Method 5 Sample-2	Probe Heater Setting:	75
Field Person:	RJG/GMS	Nozzle Number: --, Dia.(in.):	0.256
Filter Number:	A-147-32	Pitot Tube No. 19, Corr.Factor:	0.854
Barometric Pressure ("Hg):	Avg. 29.54	Meter Box No. RAC-4, Corr.Factor:	0.991
Stack Static Pressure ("H_2O):	-0.21	Meter Isokinetic Factor:	1685
Stack Dimensions:	90" I.D.	Assumed Moisture(%):	
Plume Appearance:	--	Condensate Volume(ml):	2
Ambient Temperature(°F):	--	Silica Gel Weight Gain(g):	18.5
Record all Data Every	0.5 Minutes	Leak Rate ___ CFM at ___ "Hg	

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
E-1	0	11:25	0.16	120	679.305	80	80	0.75	280	82	1.0
	30		0.16	120		80	80	0.75	280	82	1.0
	60				679.800						
N-6	0	11:39	0.73	122	679.800	78	78	3.36	255	82	1.0
	30		0.73	122		78	78	3.36	255	82	1.0
	60				680.804						
N-5	0	12:55	0.83	126	680.831	78	78	3.82	210	82	1.0
	30		0.83	145		78	78	3.75	210	82	1.0
	60				681.869						
N-4	0	13:10	0.78	130	681.885	78	78	3.56	220	84	1.0
	30		0.78	130		78	78	3.56	220	84	1.0
	60				682.912						
N-3	0	13:32	0.70	130	682.920	79	79	3.17	265	88	1.0
	30		0.70	125		79	79	3.22	265	88	1.0
	60				683.916						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/26/75
Test Number: EPA Method 5 Sample-2
Field Person: RJG/GMS
Filter Number: A-147-32
Barometric Pressure ("Hg): Avg. 29.54
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250
Probe Heater Setting: 75
Nozzle Number: --, Dia. (in.): 0.256
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture (%):
Condensate Volume (ml): 2
Silica Gel Weight Gain (g): 18.5
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-2	0	13:37	0.58	126	683.933	80	80	2.68	240	84	1.0
	30		0.58	126		80	80	2.68	240	84	1.0
	60				684.850						
N-1	0	13:45	0.42	125	684.858	80	80	1.94	255	82	1.0
	30		0.42	126		80	80	1.94	255	82	1.0
	60				685.645						
W-6	0	14:08	0.62	130	685.661	80	80	2.83	255	83	1.0
	30		0.62	130		80	80	2.83	255	83	1.0
	60				686.600						
W-5	0	14:38	0.70	125	686.648	80	80	3.23	250	80	1.0
	30		0.70	130		80	80	3.20	250	80	1.0
	60				687.646						
W-4	0	14:58	0.76	123	687.682	80	80	3.50	200	83	1.0
	30		0.76	126		80	80	3.50	200	83	1.0
	60				688.720						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/26/75 - 6/27/75
Filter Heater Setting: 250
Test Number: EPA Method 5 Sample-2
Probe Heater Setting: 75
Field Person: RJG/GMS
Nozzle Number: -- **,Dia.(in.):** 0.256
Filter Number: A-147-32
Pitot Tube No. 19 **,Corr.Factor:** 0.854
Barometric Pressure ("Hg): Avg. 29.54
Meter Box No. RAC-4**,Corr.Factor:** 0.991
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture(%):
Plume Appearance: --
Condensate Volume(ml): 2
Ambient Temperature(°F): --
Silica Gel Weight Gain(g): 18.5
Record all Data Every 0.5 **Minutes**
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-3	0	15:04	0.70	125	688.730	82	82	3.24	240	84	1.0
	30		0.70	125		82	82	3.24	240	84	1.0
	60				689.737						
6/27											
W-2	0	10:40	0.62	126	690.036	75	75	2.8	235	80	1.0
	30		0.62	125		75	75	2.8	235	80	1.0
	60				690.996						
W-1	0	11:08	0.45	130	690.996	76	76	2.1	240	80	1.0
	30		0.45	130		76	76	2.1	240	80	1.0
	60				691.793						
S-6	0	11:20	0.36	137	691.793	80	80	1.6	235	82	1.0
	30		0.36	132		80	80	1.6	235	82	1.0
	60				692.486						
S-5	0	11:58	0.27	142	692.486	80	80	1.2	225	85	1.0
	30		0.27	128		80	80	1.2	225	85	1.0
	60				693.013						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 5 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/27/75
Filter Heater Setting: 250
Test Number: EPA Method 5 Sample-2
Probe Heater Setting: 75
Field Person: GMS
Nozzle Number: -- **, Dia. (in.):** 0.256
Filter Number: A-147-32
Pitot Tube No. 19 **, Corr. Factor:** 0.854
Barometric Pressure ("Hg): Avg. 29.54
Meter Box No. RAC-4 **, Corr. Factor:** 0.991
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture (%):
Plume Appearance: --
Condensate Volume (ml): 2
Ambient Temperature (°F): --
Silica Gel Weight Gain (g): 18.5
Record all Data Every 0.5 **Minutes**
Leak Rate ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	13:25	0.26	125	693.013	80	82	1.2	270	82	1.0
	30		0.26	124		80	82	1.2	270	82	1.0
	60				693.615						
S-3	0	13:40	0.21	130	693.615	80	82	0.96	295	86	1.0
	30		0.21	128		80	82	0.96	290	86	1.0
	60				694.168						
S-2	0	14:05	0.19	130	694.168	82	84	0.86	255	88	1.0
	30		0.19	125		82	84	0.87	255	88	1.0
	60				694.677						
S-1	0	14:24	0.15	125	694.677	82	84	0.69	280	86	1.0
	30		0.15	142		82	84	0.67	280	86	1.0
	60				695.158						
AVERAGE (TOTAL)				127	(18.392)	78	79	2.08	247	82	1.0

SAMPLING TRAIN DATA

(Page 1 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/30/75
Filter Heater Setting: 250
Test Number: EPA Method 5 Sample-3
Probe Heater Setting: 75
Field Person: RJG/GMS
Nozzle Number: --, Dia. (in.): 0.256
Filter Number: A-147-36
Pitot Tube No. 19, Corr. Factor: 0.854
Barometric Pressure ("Hg): Avg. 29.70
Meter Box No. RAC-4, Corr. Factor: 0.991
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture (%):
Plume Appearance: --
Condensate Volume (ml): 2
Ambient Temperature (°F): --
Silica Gel Weight Gain (g): 20
Record all Data Every 0.5 Minutes
Leak Rate ____ CFM at ____"Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
E-6	0	08:54	0.40	125	695.304	76	76	1.83	250	82	1.0
	30		0.40	124		76	76	1.83	250	82	1.0
	60				696.048						
E-5	0	09:05	0.32	122	696.064	78	78	1.47	240	82	1.0
	30		0.32	126		78	78	1.47	240	82	1.0
	60				696.741						
E-4	0	09:20	0.26	123	696.754	79	79	1.19	275	84	1.0
	30		0.26	130		79	79	1.17	275	84	1.0
	60				697.388						
E-3	0	09:43	0.22	120	697.422	84	84	1.03	240	86	1.0
	30		0.22	123		84	84	1.02	240	86	1.0
	60				698.088						
E-2	0	09:54	0.19	120	698.113	86	86	0.89	275	90	1.0
	30		0.19	125		86	86	0.89	275	90	1.0
	60				698.667						
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 5)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/30/75

Filter Heater Setting: 250

Test Number: EPA Method 5 Sample-3

Probe Heater Setting: 75

Field Person: RJG/GMS

Nozzle Number: -- , Dia. (in.): 0.256

Filter Number: A- 147-36

Pitot Tube No. 19 , Corr. Factor: 0.854

Barometric Pressure ("Hg): Avg. 29.70

Meter Box No. RAC-4, Corr. Factor: 0.991

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1685

Stack Dimensions: 90" I.D.

Assumed Moisture (%):

Plume Appearance: --

Condensate Volume (ml): 2

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): 20

Record all Data Every 0.5 Minutes

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
E-1	0	10:03	0.13	120	698.681	86	86	0.62	250	92	1.0
	30		0.13	124		86	86	0.61	250	92	1.0
	60				699.126						
N-6	0	10:11	0.70	125	699.136	86	86	3.20	280	93	1.0
	30		0.70	130		86	86	3.15	280	93	1.0
	60				700.062						
N-5	0	10:27	0.78	123	700.100	87	87	3.66	270	90	1.0
	30		0.78	130		87	87	3.60	270	90	1.0
	60				701.147						
N-4	0	10:45	0.75	125	701.170	87	87	3.51	270	92	1.0
	30		0.75	132		87	87	3.47	270	92	1.0
	60				702.210						
N-3	0	10:56	0.68	125	702.230	88	88	3.18	250	93	1.0
	30		0.68	132		88	88	3.14	250	93	1.0
	60				703.229						
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 3 of 5)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/30/75

Filter Heater Setting: 250

Test Number: EPA Method 5 Sample-3

Probe Heater Setting: 75

Field Person: RJG/GMS

Nozzle Number: -- , Dia. (in.): 0.256

Filter Number: A-147-36

Pitot Tube No. 19 , Corr. Factor: 0.854

Barometric Pressure ("Hg): Avg. 29.70

Meter Box No. RAC-4, Corr. Factor: 0.991

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1685

Stack Dimensions: 90" I.D.

Assumed Moisture (%):

Plume Appearance: --

Condensate Volume (ml): 2

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): 20

Record all Data Every 0.5 Minutes

Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-2	0	12:20	0.58	128	703.288	89	89	2.71	240	92	1.0
	30		0.58	130		89	89	2.71	240	92	1.0
	60				704.227						
N-1	0	12:47	0.42	120	704.257	87	87	1.97	255	92	1.0
	30		0.42	124		87	87	1.96	255	92	1.0
	60				705.042						
W-6	0	13:30	0.60	128	705.127	89	89	2.81	250	90	1.0
	30		0.60	130		89	89	2.79	250	90	1.0
	60				706.068						
W-5	0	13:50	0.68	120	706.084	89	89	3.22	260	90	1.0
	30		0.68	125		89	89	3.19	260	90	1.0
	60				707.088						
W-4	0	14:02	0.73	126	707.102	88	88	3.42	260	93	1.0
	30		0.73	126		88	88	3.42	260	93	1.0
	60				708.132						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 5)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/30/75 - 7/1/75

Test Number: EPA Method 5 Sample-3

Field Person: RJG/GMS

Filter Number: A-147-36

Barometric Pressure ("Hg): Avg. 29.70

Stack Static Pressure ("H_2O): -0.21

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature (°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250

Probe Heater Setting: 75

Nozzle Number: --, Dia. (in.): 0.256

Pitot Tube No. 19, Corr. Factor: 0.854

Meter Box No. RAC-4, Corr. Factor: 0.991

Meter Isokinetic Factor: 1685

Assumed Moisture (%):

Condensate Volume (ml): 2

Silica Gel Weight Gain (g): 20

Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-3	0	14:15	0.70	122	708.148	88	88	3.30	255	96	1.0
	30		0.70	135		88	88	3.25	255	96	1.0
	60				709.161						
W-2	0	14:23	0.58	124	709.168	89	89	2.72	255	96	1.0
	30		0.58	132		89	89	2.69	255	96	1.0
	60				710.102						
W-1	0	14:58	0.42	130	710.149	89	89	1.95	250	92	1.0
	30		0.42	130		89	89	1.95	250	92	1.0
	60				710.927						
S-6	0	15:13	0.37	125	710.942	88	88	1.73	–		1.0
	30		0.37	125		88	88	1.73	–		1.0
	60				711.679						
7/1											
S-5	0	08:51	0.35	125	711.917	82	82	1.62	270	89	1.0
	30		0.35	143		82	82	1.54	270	89	1.0
	60				712.675						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 5 of 5)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/1/75 - 7/2/75
Filter Heater Setting: 250
Test Number: EPA Method 5 Sample-3
Probe Heater Setting: 75
Field Person: RJG/GMS
Nozzle Number: -- **,Dia.(in.):** 0.256
Filter Number: A-147-36
Pitot Tube No. 19 **,Corr.Factor:** 0.854
Barometric Pressure ("Hg): Avg. 29.70
Meter Box No. RAC-4**,Corr.Factor:** 0.991
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture(%):
Plume Appearance: --
Condensate Volume(ml): 2
Ambient Temperature(°F): --
Silica Gel Weight Gain(g): 20
Record all Data Every 0.5 **Minutes**
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-4	0	09:35	0.23	134	712.682	82	82	1.05	250	88	1.0
	30		0.23	135		82	82	1.05	250	88	1.0
	60				713.248						
7/2											
S-3	0	09:21	0.18	120	713.394	95	95	0.86	250	92	1.0
	30		0.18	120		95	95	0.86	250	92	1.0
	60				713.931						
S-2	0	09:28	0.16	125	713.931	93	93	0.76	265	93	1.0
	30		0.16	130		93	93	0.75	265	93	1.0
	60				714.417						
S-1	0	09:46	0.14	120	714.417	93	93	0.67	250	90	1.0
	30		0.14	120		93	93	0.67	250	90	1.0
	60				714.886						
AVERAGE (TOTAL)				126	(18.541)	87	87	2.05	257	90	1.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/2/75

Test Number: EPA Method 5 Sample-4

Field Person: RJG/GMS

Filter Number: A-147-37

Barometric Pressure ("Hg): Avg. 29.46

Stack Static Pressure ("H_2O): -0.21

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every 0.5 **Minutes**

Filter Heater Setting: 250

Probe Heater Setting: 75

Nozzle Number: -- **,Dia.(in.):** 0.256

Pitot Tube No. 19 **,Corr.Factor:** 0.854

Meter Box No. RAC-4 **,Corr.Factor:** 0.991

Meter Isokinetic Factor: 1685

Assumed Moisture(%):

Condensate Volume(ml): -5

Silica Gel Weight Gain(g): 15

Leak Rate _____ **CFM at** _____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
E-4	0	13:27	0.35	125	715.012	90	90	1.65	250	97	1.0
	30		0.35	130		90	90	1.63	250	97	1.0
	60				715.722						
E-3	0	13:35	0.27	121	715.722	90	90	1.28	250	98	1.0
	30		0.27	125		90	90	1.27	250	98	1.0
	60				716.357						
E-2.	0	13:45	0.23	130	716.357	90	90	1.07	250	98	1.0
	30		0.23	130		90	90	1.07	250	98	1.0
	60				716.970						
E-1	0	13:55	0.17	124	716.970	90	90	0.80	250	98	1.0
	30		0.17	134		90	90	0.77	250	98	1.0
	60				717.483						
N-4	0	14:15	0.70	120	717.483	90	90	3.30	250	98	1.0
	30		0.70	130		90	90	3.25	250	98	1.0
	60				718.472						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/2/75
Test Number: EPA Method 5 Sample-4
Field Person: RJG/GMS
Filter Number: A-147-37
Barometric Pressure ("Hg): Avg. 29.46
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250
Probe Heater Setting: 75
Nozzle Number: -- ,Dia.(in.): 0.256
Pitot Tube No. 19 ,Corr.Factor: 0.854
Meter Box No. RAC-4, Corr.Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%):
Condensate Volume(ml): -5
Silica Gel Weight Gain(g): 15
Leak Rate ___ CFM at ___ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-3	0	14:42	0.82	123	718.472	90	90	3.87	250	98	1.0
	30		0.82	126		90	90	3.86	250	98	1.0
	60				719.545						
N-2	0	14:55	0.80	121	719.545	90	90	3.79	250	98	1.0
	30		0.80	124		90	90	3.78	250	98	1.0
	60				720.602						
N-1	0	15:05	0.50	123	720.602	90	90	2.36	250	98	1.0
	30		0.50	123		90	90	2.36	250	98	1.0
	60				721.448						
W-4	0	15:35	0.62	121	721.448	90	90	2.93	250	96	1.0
	30		0.62	125		90	90	2.92	250	96	1.0
	60				722.410						
W-3	0	15:45	0.70	125	722.410	90	90	3.29	250	96	1.0
	30		0.70	126		90	90	3.29	250	96	1.0
	60				723.416						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/3/75
Test Number: EPA Method 5 Sample-4
Field Person: RJG/GMS
Filter Number: A-147-37
Barometric Pressure ("Hg): Avg. 29.46
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250
Probe Heater Setting: 75
Nozzle Number: --, Dia.(in.): 0.256
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%):
Condensate Volume(ml): -5
Silica Gel Weight Gain(g): 15
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Outlet				
W-2	0	08:38	0.64	120	723.463	76	76	2.95	250	80	1.0
	30		0.64	120		76	76	2.95	250	80	1.0
	60				724.417						
W-1	0	09:03	0.48	120	724.417	78	78	2.23	250	80	1.0
	30		0.48	120		78	78	2.23	250	80	1.0
	60				725.240						
S-4	0	09:39	0.35	120	725.240	79	79	1.63	250	82	1.0
	30		0.35	120		79	79	1.63	250	82	1.0
	60				726.039						
S-3	0	09:54	0.23	120	726.057	80	80	1.07	250	84	1.0
	30		0.23	120		80	80	1.07	250	84	1.0
	60				726.637						
S-2	0	10:06	0.20	123	726.665	82	82	0.93	250	84	1.0
	30		0.20	125		82	82	0.92	250	84	1.0
	60				727.224						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/3/75

Filter Heater Setting: 250

Test Number: EPA Method 5 Sample-4

Probe Heater Setting: 75

Field Person: RJG/GMS

Nozzle Number: -- ,Dia.(in.): 0.256

Filter Number: A-147-37

Pitot Tube No. 19 ,Corr.Factor: 0.854

Barometric Pressure ("Hg): Avg. 29.46

Meter Box No. RAC-4, Corr.Factor: 0.991

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1685

Stack Dimensions: 90" I.D.

Assumed Moisture(%):

Plume Appearance: --

Condensate Volume(ml): -5

Ambient Temperature(°F): --

Silica Gel Weight Gain(g): 15

Record all Data Every 0.5 Minutes

Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-1	0	10:27	0.15	120	727.224	83	83	0.70	250	84	1.0
	30		0.15	123		83	83	0.70	250	84	1.0
	60				727.710						
AVERAGE (TOTAL)				124	(12.492)	86	86	2.11	250	92	1.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/8/75

Filter Heater Setting: 200

Test Number: EPA Method 5 Sample-5

Probe Heater Setting: 80

Field Person: RGK

Nozzle Number: -- ,**Dia.(in.):** 0.256

Filter Number: A-147-14

Pitot Tube No. 19 ,**Corr.Factor:** 0.854

Barometric Pressure ("Hg): 29.31

Meter Box No. RAC-4,**Corr.Factor:** 0.991

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1685

Stack Dimensions: 90" I.D.

Assumed Moisture(%):

Plume Appearance: --

Condensate Volume(ml): -3

Ambient Temperature(°F): --

Silica Gel Weight Gain(g): 16

Record all Data Every 0.5 **Minutes**

Leak Rate _____ **CFM at** _____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
E-4	0	09:28	0.37	130	727.973	80	80	1.75	235	92	2.5
	30			130							
	60			(130)	728.744						
E-3	0	10:17	0.37	128		83	83	1.75	240	96	2.5
	30			128							
	60			(130)	729.473	(83)	(83)				
E-2	0	10:33	0.32	125		83	83	1.5	240	95	2.5
	30			125							
	60			(128)	730.167						
E-1	0	10:43	0.20	130		83	83	0.9	240	95	2.5
	30			130							
	60			(130)	730.712	(83)	(83)				
N-4	0	10:56	0.7	125		83	83	3.3	240	92	5.0
	30			132							
	60			(132)	731.706						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/8/75

Filter Heater Setting: 200

Test Number: EPA Method 5 Sample-5

Probe Heater Setting: 80

Field Person: RGK

Nozzle Number: -- **,Dia.(in.):** 0.256

Filter Number: A-147-14

Pitot Tube No. 19 **,Corr.Factor:** 0.854

Barometric Pressure ("Hg): 29.31

Meter Box No. RAC-4**,Corr.Factor:** 0.991

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1685

Stack Dimensions: 90" I.D.

Assumed Moisture(%):

Plume Appearance: --

Condensate Volume(ml): -3

Ambient Temperature(°F): --

Silica Gel Weight Gain(g): 16

Record all Data Every 0.5 **Minutes**

Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-3	0	11:41	0.8	125		83	83	3.8	240	92	6.0
	30			128							
	60			(128)	732.752						
N-2	0	12:13	0.63	145	732.752	85	85	2.9	240	91	5.5
	30			137							
	60			(137)	733.768	(85)	(85)				
N-1	0	12:45	0.5	132		85	85	2.35	240	93	5.0
	30			132							
	60			(132)	734.712						
W-4	0	13:05	0.6	133		85	85	2.8	240	93	5.5
	30			135							
	60			(135)	735.878						
W-3	0	13:20	0.72	128		86	86	3.4	240	93	5.5
	30			130							
	60			(130)	736.886						
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/8/75
Test Number: EPA Method 5 Sample-5
Field Person: RGK
Filter Number: A-147-14
Barometric Pressure ("Hg): 29.31
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 200
Probe Heater Setting: 80
Nozzle Number: -- , Dia. (in.): 0.256
Pitot Tube No. 19 , Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture (%):
Condensate Volume (ml): -3
Silica Gel Weight Gain (g): 16
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-2	0	13:35	0.7	140		86	86	3.3	240	93	5.5
	30			135							
	60			(137)	737.892						
W-1	0	13:45	0.48	133		86	86	2.3	240	93	5.0
	30			133							
	60				738.763						
S-4	0	14:03	0.35	128	738.763	86	86	1.65	240	94	5.0
	30			130							
	60			(130)	739.488						
S-3	0	14:21	0.26	125		86	86	1.2	240	94	5.0
	30			128							
	60			(130)	740.110						
S-2	0	14:40	0.21	125		86	86	0.95	240	94	
	30			130							
	60			(130)	740.667						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/8/75
Test Number: EPA Method 5 Sample-5
Field Person: RGK
Filter Number: A-147-14
Barometric Pressure ("Hg): 29.31
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): -
Record all Data Every 0.5 Minutes

Filter Heater Setting: 200
Probe Heater Setting: 80
Nozzle Number: -- ,Dia.(in.): 0.256
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%):
Condensate Volume(ml): -3
Silica Gel Weight Gain(g): 16
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-1	0	14:49	0.16	132		86	86	0.76	240	94	
	30			135							
	60			(135)	741.168						
AVERAGE (TOTAL)				131	(13.076)	84	84	2.2	240	93	4.5

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/10/75

Test Number: EPA Method 5 Sample-6

Field Person: RGK

Filter Number: A-190-09

Barometric Pressure ("Hg): 29.33

Stack Static Pressure ("H_2O): -0.21

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 200

Probe Heater Setting: 80

Nozzle Number: -- ,Dia.(in.): 0.25

Pitot Tube No. 19 ,Corr.Factor: 0.854

Meter Box No. RAC-3,Corr.Factor: 0.993

Meter Isokinetic Factor: 1796

Assumed Moisture(%):

Condensate Volume(ml): 3

Silica Gel Weight Gain(g): 11

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
E-4	0	09:40	0.35	120	954.272	65	65	1.75	200	68	
	30			120							
	60			(130)	954.983	(69)	(69)		(235)	(72)	
E-3	0	09:53	0.33	120		69	69	1.7	280	72	
	30			130							
	60			(130)	955.667	(70)	(70)		(280)	(72)	
E-2	0	10:17	0.22	110		70	70	1.15	290	72	
	30			120							
	60			(120)	956.245						
E-1	0	10:45	0.18	120		73	73	0.9	230	74	
	30			120							
	60			(120)	956.768						
N-4	0	10:57	0.7	120		75	75	3.5	220	80	
	30			125							
	60			(125)	957.739						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/10/75
Test Number: EPA Method 5 Sample-6
Field Person: RGK
Filter Number: A-190-09
Barometric Pressure ("Hg): 29.33
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature (°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 200
Probe Heater Setting: 80
Nozzle Number: --, Dia. (in.): 0.25
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-3, Corr. Factor: 0.993
Meter Isokinetic Factor: 1796
Assumed Moisture (%):
Condensate Volume (ml): 3
Silica Gel Weight Gain (g): 11
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-3	0	11:07	0.77	125		76	76	3.85	230	82	
	30			125							
	60			(125)	958.808						
N-2	0	11:20	0.65	120	958.808	76	76	3.25	230	84	2.0
	30			125							
	60			(125)	958.802	(78)	(78)	(2.25)	(250)	(84)	(2.0)
N-1	0	12:42	0.45	130		78	78	2.25	250	84	2.0
	30			130							
	60			(130)	960.608	(80)	(80)		(250)	(84)	
W-4	0	12:52	0.55	130		80	80	2.75	250	84	
	30			130							
	60			(130)	961.503						
W-3	0	13:37	0.66	120		80	80	3.3	250	84	2.0
	30			130							
	60			(130)	962.466						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/10/75	**Filter Heater Setting:** 200
Test Number: EPA Method 5 Sample-6	**Probe Heater Setting:** 80
Field Person: RGK	**Nozzle Number:** -- **,Dia.(in.):** 0.25
Filter Number: A-190-09	**Pitot Tube No.** 19 **,Corr.Factor:** 0.854
Barometric Pressure ("Hg): 29.33	**Meter Box No.** RAC-3 **,Corr.Factor:** 0.993
Stack Static Pressure ("H_2O): -0.21	**Meter Isokinetic Factor:** 1796
Stack Dimensions: 90" I.D.	**Assumed Moisture(%):**
Plume Appearance: --	**Condensate Volume(ml):** 3
Ambient Temperature(°F): --	**Silica Gel Weight Gain(g):** 11
Record all Data Every 0.5 **Minutes**	**Leak Rate** ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
W-2	0	13:58	0.61	125		78	78	3.05	220	82	2.0
	30			130							
	60			(130)	963.409						
W-1	0	14:10	0.45	120		77	77	2.25	240	80	2.0
	30			125							
	60			(125)	964.257						
S-4	0	14:24	0.3	125	964.257	77	77	1.5	230	82	
	30			125							
	60			(125)	964.940						
S-3	0	14:36	0.25	120		77	77	1.25	240	81	
	30			125							
	60			(125)	965.547						
S-2	0	14:52	0.2	125		77	77	1.0	230	81	
	30			120							
	60			(120)	966.087						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/10/75	Filter Heater Setting: 200
Test Number: EPA Method 5 Sample-6	Probe Heater Setting: 80
Field Person: RGK	Nozzle Number: -- , Dia. (in.): 0.25
Filter Number: A-190-09	Pitot Tube No. 19, Corr. Factor: 0.854
Barometric Pressure ("Hg): 29.33	Meter Box No. RAC-3, Corr. Factor: 0.993
Stack Static Pressure ("H_2O): -0.21	Meter Isokinetic Factor: 1796
Stack Dimensions: 90" I.D.	Assumed Moisture (%):
Plume Appearance: --	Condensate Volume (ml): 3
Ambient Temperature (°F): --	Silica Gel Weight Gain (g): 11
Record all Data Every 0.5 Minutes	Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-1	0	15:05	0.16	120		77	77	0.8	260	81	
	30			125							
	60			(120)	966.589						
AVERAGE (TOTAL)				124	(12.231)	75	75	2.1	240	79	2.0

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/14/75

Filter Heater Setting: 200

Test Number: EPA Method 5 Sample-7

Probe Heater Setting: 80

Field Person: RGK

Nozzle Number: -- , Dia. (in.): 0.25

Filter Number: A-190-13

Pitot Tube No. 19, Corr. Factor: 0.854

Barometric Pressure ("Hg): 29.63

Meter Box No. RAC-3, Corr. Factor: 0.993

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1796

Stack Dimensions: 90" I.D.

Assumed Moisture (%):

Plume Appearance: --

Condensate Volume (ml): -5

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): 15

Record all Data Every 0.5 Minutes

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
E-4	0	08:40	0.34	120	967.512	63	63	1.7	220	74	2.0
	30			120							
	60			(120)	968.216						
E-3	0.	09:23	0.3	120		67	67	1.5	225	74	2.0
	30			120							
	60			(120)	968.803						
E-2	0	09:32	0.2	120		70	70	1.0	230	76	1.5
	30			123							
	60			(125)	969.448						
E-1	0	09:50	0.2	118		68	68	1.0	230	76	1.5
	30			121							
	60			(121)	969.975						
N-4	0	10:22	0.7	125		68	68	3.5	235	76	2.5
	30			118							
	60			(118)	970.947						
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/14/75
Filter Heater Setting: 200
Test Number: EPA Method 5 Sample-7
Probe Heater Setting: 80
Field Person: RGK
Nozzle Number: -- , Dia. (in.): 0.25
Filter Number: A-190-13
Pitot Tube No. 19 , Corr. Factor: 0.854
Barometric Pressure ("Hg): 29.63
Meter Box No. RAC-3, Corr. Factor: 0.993
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1796
Stack Dimensions: 90" I.D.
Assumed Moisture (%):
Plume Appearance: --
Condensate Volume (ml): -5
Ambient Temperature (°F): --
Silica Gel Weight Gain (g): 15
Record all Data Every 0.5 Minutes
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-3	0	10:33	0.78	120		68	68	3.9	250	76	2.5
	30			122							
	60			(122)	971.973						
N-2	0	10:58	0.65	125	971.973	70	70	3.25	250	74	2.5
	30			125							
	60			(125)	972.932						
N-1	0	11:10	0.5	123		70	70	2.5	240	74	2.0
	30			125							
	60			(125)	973.782						
W-4	0	12:45	0.6	120		70	70	3.0	250	74	2.0
	30			120							
	60			(120)	974.843						
W-3	0	12:55	0.7	123		72	72	3.5	260	79	2.5
	30			123							
	60			(125)	975.837						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/14/75
Test Number: EPA Method 5 Sample-7
Field Person: RGK
Filter Number: A-190-13
Barometric Pressure ("Hg): 29.63
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 200
Probe Heater Setting: 80
Nozzle Number: --, Dia. (in.): 0.25
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-3, Corr. Factor: 0.993
Meter Isokinetic Factor: 1796
Assumed Moisture(%):
Condensate Volume(ml): -3
Silica Gel Weight Gain(g): 15
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
W-2	0	13:18	0.65	118		72	72	3.25	200	78	2.5
	30			120							
	60			(120)	976.793						
W-1	0	13:38	0.5	124		72	72	2.5	200	78	2.0
	30			124							
	60			(124)	977.656						
S-4	0	13;47	0.3	122	977.656	75	75	1.5	200	74	2.0
	30			125							
	60			(125)	978.347						
S-3	0	13:58	0.27	115		75	75	1.35	220	74	1.5
	30			118							
	60			(125)	978.985						
S-2	0	14:10	0.17	123		75	75	0.85	250	74	1.5
	30			125							
	60			(125)	979.500						
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/14/75

Filter Heater Setting: 200

Test Number: EPA Method 5 Sample-7

Probe Heater Setting: 80

Field Person: RGK

Nozzle Number: -- **, Dia. (in.):** 0.25

Filter Number: A-190-13

Pitot Tube No. 19 **, Corr. Factor:** 0.854

Barometric Pressure ("Hg): 29.63

Meter Box No. RAC-3 **, Corr. Factor:** 0.993

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1796

Stack Dimensions: 90" I.D.

Assumed Moisture (%):

Plume Appearance: --

Condensate Volume (ml): -5

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): 15

Record all Data Every 0.5 **Minutes**

Leak Rate ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-1	0	14:24	0.13	122		75	75	0.65	250	74	
	30			120							
	60			(120)	979.947						
AVERAGE (TOTAL)				121	(12.348)	71	71	2.2	230	75	2.0

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/15/75

Filter Heater Setting: 200

Test Number: EPA Method 5 Sample-8

Probe Heater Setting: 65

Field Person: RGK

Nozzle Number: -- ,Dia.(in.): 0.254

Filter Number: A-190-02

Pitot Tube No. 19 ,Corr.Factor: 0.854

Barometric Pressure ("Hg): 29.60

Meter Box No. RAC-3, Corr.Factor: 0.993

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1796

Stack Dimensions: 90" I.D.

Assumed Moisture(%):

Plume Appearance: --

Condensate Volume(ml): 0

Ambient Temperature(°F): --

Silica Gel Weight Gain(g): 12

Record all Data Every 0.5 Minutes

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
E-4	0	08:30	0.32	120	980.240	73	73	1.6	260	84	1.5
	30			123							
	60			(126)	980.927						
E-3	0	08:47	0.25	120		75	75	1.25	245	87	1.5
	30			120							
	60			(123)	981.541						
E-2	0	09:20	0.2	123		77	77	1.0	225	84	1.0
	30			126							
	60			(128)	982.089						
E-1	0	09:29	0.15	130		78	78	0.75	250	84	1.0
	30			128							
	60			(129)	982.558						
N-4	0	09:58	0.7	126		78	78	3.5	225	84	2.5
	30			127							
	60			(128)	983.557						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/15/75
Test Number: EPA Method 5 Sample-8
Field Person: RGK
Filter Number: A-190-02
Barometric Pressure ("Hg): 29.60
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 200
Probe Heater Setting: 65
Nozzle Number: -- ,Dia.(in.): 0.254
Pitot Tube No. 19 ,Corr.Factor: 0.854
Meter Box No. RAC-3,Corr.Factor: 0.993
Meter Isokinetic Factor: 1796
Assumed Moisture(%):
Condensate Volume(ml): 0
Silica Gel Weight Gain(g): 12
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-3	0	10:54	0.8	123		80	80	4.0	245	84	2.5
	30			125							
	60			(127)	984.618						
N-2	0	11:04	0.65	121	984.618	80	80	3.25	240	84	2.0
	30			126							
	60			(128)	985.666	(80)	(80)				
N-1	0	11:25	0.45	121		80	80	2.25	250	84	2.0
	30			125							
	60			(127)	986.488						
W-4	0	11:40	0.6	122		80	80	3.0	230	84	2.0
	30			122							
	60			(127)	987.405						
W-3	0	11:56	0.7	120		80	80	3.5	225	84	2.5
	30			123							
	60			(127)	988.392						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/15/75
Filter Heater Setting: 200
Test Number: EPA Method 5 Sample-8
Probe Heater Setting: 65
Field Person: RGK
Nozzle Number: -- ,Dia.(in.): 0.254
Filter Number: A-190-02
Pitot Tube No. 19 ,Corr.Factor: 0.854
Barometric Pressure ("Hg): 29.60
Meter Box No. RAC-3,Corr.Factor: 0.993
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1796
Stack Dimensions: 90" I.D.
Assumed Moisture(%):
Plume Appearance: --
Condensate Volume(ml): 0
Ambient Temperature(°F): --
Silica Gel Weight Gain(g): 12
Record all Data Every 0.5 Minutes
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-2	0	13:00	0.6	127		82	82	3.0	260	85	2.0
	30			128							
	60			(130)	989.337						
W-1	0	13:25	0.5	125		83	83	2.5	225	85	2.0
	30			127							
	60			(128)	990.190						
S-4	0	13:33	0.3	127	990.190	83	83	1.5	250	88	1.5
	30			128							
	60			(130)	990.868						
S-3	0	13:45	0.25	125		83	83	1.25	250	88	1.0
	30			128							
	60			(130)	991.468						
S-2	0	14:04	0.2	122		83	83	1.0	240	88	1.0
	30			124							
	60			(125)	992.023						
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/15/75

Test Number: EPA Method 5 Sample-8

Field Person: RGK

Filter Number: A-190-02

Barometric Pressure ("Hg): 29.60

Stack Static Pressure ("H_2O): -0.21

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature (°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 200

Probe Heater Setting: 65

Nozzle Number: --, Dia. (in.): 0.254

Pitot Tube No. 19, Corr. Factor: 0.854

Meter Box No. RAC-3, Corr. Factor: 0.993

Meter Isokinetic Factor: 1796

Assumed Moisture (%):

Condensate Volume (ml): 0

Silica Gel Weight Gain (g): 12

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-1	0	14:09	0.15	128		83	83	0.75	230	88	1.0
	30			121							
	60			(123)	992.502						
AVERAGE (TOTAL)				124	(12.176)	80	80	2.1	240	85	1.7

SAMPLING TRAIN DATA

(Page 1 of 4)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 7/16/75

Filter Heater Setting: 250

Test Number: EPA Method 5 Sample-9

Probe Heater Setting: 60

Field Person: VWH/GEH

Nozzle Number: -- ,Dia.(in.): 0.254

Filter Number: A-190-15

Pitot Tube No. 19 ,Corr.Factor: 0.854

Barometric Pressure ("Hg): 29.60

Meter Box No. RAC-3,Corr.Factor: 0.993

Stack Static Pressure ("H_2O): -0.21

Meter Isokinetic Factor: 1796

Stack Dimensions: 90" I.D.

Assumed Moisture(%):

Plume Appearance: --

Condensate Volume(ml): -4

Ambient Temperature(°F): 75

Silica Gel Weight Gain(g): 15

Record all Data Every 0.5 Minutes

Leak Rate 0.001 CFM at 15.0 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
E-4	0	08:24	0.37	120	992.770	75	75	1.75	250	85	1.5
	30		0.37	120							
	60		(0.38)	(120)	993.487				(240)	(85)	
E-3	0	08:40	0.25	120		77	75	1.20	240	88	1.0
	30		0.18	120							
	60			(120)	994.087						
E-2	0	08:53	0.18	120		77	78	0.86	250	84	0.80
	30		0.18	120							
	60		(0.18)	(125)	994.60	(77)	(78)	(0.86)	(250)	(86)	
E-1	0	09:34	0.15	120		78	78	0.72	245	85	0.80
	30		0.15	120							
	60		(0.15)	(120)	995.075	(78)	(78)	(0.72)	(245)		
N-4	0	09:41	0.65	120		81	82	3.14	250	88	3.0
	30		0.65	125							
	60		(0.65)	(130)	995.923	(83)	(83)	(3.14)	(250)		
AVERAGE (TOTAL)					( )						

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SAMPLING TRAIN DATA

(Page 2 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/16/75
Test Number: EPA Method 5 Sample-9
Field Person: VWH/GEH
Filter Number: A-190-15
Barometric Pressure ("Hg): 29.60
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature (°F): 75
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250
Probe Heater Setting: 60
Nozzle Number: -- , Dia. (in.): 0.254
Pitot Tube No. 19 , Corr. Factor: 0.854
Meter Box No. RAC-3, Corr. Factor: 0.993
Meter Isokinetic Factor: 1796
Assumed Moisture (%):
Condensate Volume (ml): 4
Silica Gel Weight Gain (g): 15
Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time: Sampling (sec)	Time: Clock	Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter: Volume (ft^3)	Dry Gas Meter: Temp (°F) Inlet	Dry Gas Meter: Temp (°F) Outlet	Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
N-3	0	09:52	0.73	125		84	84	3.51	245	90	3.0
	30		0.73	125				3.51			
	60		(0.73)	(130)	996.968	(85)	(85)	(3.51)	(245)	(90)	(3.0)
N-2	0	10:06	0.60	120		85	85	2.90	250	90	2.5
	30		0.60	120		85	85	2.9			
	60		(0.60)	(125)	997.868	(85)	(85)	(2.9)			(2.5)
N-1	0	10:35	0.45	120		86	86	2.17	255	88	
	30		0.45	120		87	88	2.17			2.0
	60		(0.45)	(125)	998.673	(87)	(88)	(2.17)	(255)	(90)	
W-4	0	10:50	0.58	120		87	88	2.81			2.5
	30		0.58	125		87	88	2.81	255	90	
	60		(0.58)	(130)	999.590	(87)	(88)	(2.81)	(255)	(90)	(2.5)
W-3	0	11:09	0.68	120		87	88	3.30	250	90	3.0
	30		0.68	125		87	88	3.3			
	60		(0.68)	(125)	1000.572	(87)	(88)	(3.3)	(250)	(90)	(3.0)
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

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SAMPLING TRAIN DATA

(Page 3 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/16/75
Filter Heater Setting: 250
Test Number: EPA Method 5 Sample-9
Probe Heater Setting: 60
Field Person: VWH/GEH
Nozzle Number: -- **,Dia.(in.):** 0.254
Filter Number: A-190-15
Pitot Tube No. 19**,Corr.Factor:** 0.854
Barometric Pressure ("Hg): 29.60
Meter Box No. RAC-3**,Corr.Factor:** 0.993
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1796
Stack Dimensions: 90" I.D.
Assumed Moisture(%):
Plume Appearance: --
Condensate Volume(ml): -4
Ambient Temperature(°F): 75
Silica Gel Weight Gain(g): 15
Record all Data Every 0.5 **Minutes**
Leak Rate ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-2	0	11:23	0.63	120		87	88	3.06	250	90	2.5
	30		0.63	125		87	88				2.5
	60		(0.63)	(125)	1001.532	(88)	(89)	(3.06)	(250)	(90)	
W-1	0	11:37	0.47	125		88	89	2.29			2.0
	30		0.47	125		88	89	2.29	245	90	
	60		(0.47)	(125)	1002.340	(89)	(89)	(2.29)	(245)	(90)	(2.0)
S-4	0	12:03	0.34	120		87	88	1.66	250	91	
	30		0.34	125		88	89		250	91	1.5
	60		(0.34)	(125)	1003.046	(88)	(89)	(1.66)	(250)	(91)	
S-3	0	12:17	0.25	125		88	89	1.22	250	91	
	30		0.25	125		88	89		250	90	1.6
	60		(0.25)	(125)	1003.671	(88)	(89)	(1.22)	(250)	(90)	
S-2	0	13:40	0.20	125		88	90	0.97	245	93	1.0
	30		0.20	125		88	90	0.97	245	93	
	60		(0.20)	(130)	1004.220	(88)	(90)	(0.97)	(245)	(93)	
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 4 of 4)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/16/75
Filter Heater Setting: 250
Test Number: EPA Method 5 Sample-9
Probe Heater Setting: 60
Field Person: VWH/GEH
Nozzle Number: -- **,Dia.(in.):** 0.254
Filter Number: A-190-15
Pitot Tube No. 19**,Corr.Factor:** 0.854
Barometric Pressure ("Hg): 29.60
Meter Box No. RAC-3**,Corr.Factor:** 0.993
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1786
Stack Dimensions: 90" I.D.
Assumed Moisture(%):
Plume Appearance: --
Condensate Volume(ml): -4
Ambient Temperature(°F): 75
Silica Gel Weight Gain(g): 15
Record all Data Every 0.5 **Minutes**
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-1	0	13:48	0.14	130		88	90	0.68	250	92	1.0
	30		0.14	130		88	89	0.68		92	
	60		(0.14)	(130)	1004.670	(88)	(90)	(0.68)	(250)	(92)	(1.0)
AVERAGE (TOTAL)				123	(11.817)	84	85	2.0	249	88	1.8

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 2-12-75

Filter Heater Setting:

Test Number: EPA Method 8 Preliminary-1

Probe Heater Setting:

Field Person: RJG

Nozzle Number: ____, Dia. (in.): .

Filter Number:

Pitot Tube No. ____, Corr. Factor:

Barometric Pressure ("Hg): 29.52

Meter Box No. MAC-5, Corr. Factor: 0.999

Stack Static Pressure ("H_2O):

Meter Isokinetic Factor:

Stack Dimensions: 66" I.D.

Assumed Moisture (%):

Plume Appearance:

Condensate Volume (ml):

Ambient Temperature (°F):

Silica Gel Weight Gain (g):

Record all Data Every ____ Minutes

Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		11:16		45	204.800	44	40	2.0			8.0
CL		11:31		42	215.880	39	39	2.0			9.0
CL		11:46		45	227.500	36	37	2.0			7.0
CL		12:01		48	238.45	35	35	2.0			7.0
CL		12:16			249.325						
AVERAGE (TOTAL)				45	(44.480)	38	38	2.0			7.8

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 2-12-75
Test Number: EPA Method 8 Preliminary-2
Field Person: RJG
Filter Number:
Barometric Pressure ("Hg): 29.52
Stack Static Pressure ("H_2O):
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature (°F):
Record all Data Every ________ **Minutes**
Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____, **Dia. (in.):**
Pitot Tube No. ___, **Corr. Factor:**
Meter Box No. MAC-5, **Corr. Factor:** 0.999
Meter Isokinetic Factor:
Assumed Moisture (%):
Condensate Volume (ml):
Silica Gel Weight Gain (g):
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		12:18		40	249.325	36	36	2.0			6.0
CL		12:33		40	259.82	34	34	2.0			6.0
CL		12:48		45	270.81	35	33	2.0			8.0
CL		13:05		42	283.82	36	33	2.0			7.0
CL		13:18			293.163						
AVERAGE (TOTAL)				42	(43.794)	35	34	2.0			6.8

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 2-12-75
Test Number: EPA Method 8 Preliminary-3
Field Person: RJG
Filter Number:
Barometric Pressure ("Hg): 29.52
Stack Static Pressure ("H_2O):
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F):
Record all Data Every ______ Minutes

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____, Dia.(in.): .
Pitot Tube No. ____, Corr.Factor:
Meter Box No. MAC-5, Corr.Factor: 0.999
Meter Isokinetic Factor:
Assumed Moisture(%):
Condensate Volume(ml):
Silica Gel Weight Gain(g):
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		13:28		45	293.163	33	33	2.0			6.0
CL		13:43		45	304.10	34	32	2.0			6.0
CL		13:58		42	314.73	35	32	2.0			7.0
CL		14:13		45	325.76	35	32	2.0			7.0
CL		14:28			336.462						
AVERAGE (TOTAL)				44	(43.256)	34	32	2.0			6.5

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/5/75
Test Number: EPA Method 8 Sample-1
Field Person: RCM
Filter Number: --
Barometric Pressure ("Hg): 28.85
Stack Static Pressure ("H_2O): -5.0
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature (°F): 73
Record all Data Every 0.25 Minutes

Filter Heater Setting: 90
Probe Heater Setting: 90
Nozzle Number: --, Dia. (in.): 0.188
Pitot Tube No. 18, Corr. Factor: 0.838
Meter Box No. RAC-1, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture (%): 1
Condensate Volume (ml): --
Silica Gel Weight Gain (g): --
Leak Rate 0.01 CFM at 14 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	15:02	1.35	86	276.637	80	80	3.4	225	76	6.0
	15		1.55	135				3.4			
	30		1.65	210				3.4			
	45		1.45	180				3.4			
	60	15:03		125	277.636						
S-7	0	15:22	1.45	89	277.643	86	84	3.4	200	80	6.5
	15		1.5	105				3.4			
	30		1.65	295				3.4			
	45		1.45	210				3.4			
	60	15:23		140	278.652						
S-7	0	16:13	1.45	87	278.6	84	82	3.4			7.0
	15							3.4			
	30			200				3.4			
	45							3.4			
	60	16:14			279.79						
AVERAGE (TOTAL)					( )						

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SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/5/75
Filter Heater Setting: 90
Test Number: EPA Method 8 Sample-1(cont.)
Probe Heater Setting: 90
Field Person: RCM
Nozzle Number: --, Dia. (in.): 0.188
Filter Number: --
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 28.85
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): --
Ambient Temperature (°F): 73
Silica Gel Weight Gain (g): --
Record all Data Every 0.25 Minutes
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	16:25	1.45	85	279.79	84	84	3.4	220	80	6.5
	15		1.50	120				3.4			
	30		1.50	155				3.4			
	45		1.50	170				3.4			
	60	16:26		130	280.700						
AVERAGE (TOTAL)				148	(3.957)	84	82	3.4	215	79	6.5

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/6/75
Test Number: EPA Method 8 Sample-2
Field Person: RCM
Filter Number: --
Barometric Pressure ("Hg): 28.80
Stack Static Pressure ("H_2O): -5.1
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): 65
Record all Data Every 0.25 **Minutes**

Filter Heater Setting: 90
Probe Heater Setting: 90
Nozzle Number: -- **,Dia.(in.):** 0.188
Pitot Tube No. 18 **,Corr.Factor:** 0.838
Meter Box No. RAC-1 **,Corr.Factor:** 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.005 **CFM at** 17 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-7	0	10:04	1.45	78	280.828	76	73	3.4	280	68	7.0
	15		1.5	120				3.4			
	30		1.6	185				3.4			
	45		1.5	195				3.4			
	60	10:05		120	281.853						
S-7	0	10:27	1.4	80	281.858	78	78	3.4	200	70	7.0
	15		1.5	125				3.4			
	30		1.55	190				3.4			
	45		1.45	150				3.4			
	60	10:28		115	282.878						
S-7	0	10:49	1.45	84	282.883	82	78	3.4	225	70	7.0
	15		1.55	110				3.4			
	30		1.6	200				3.4			
	45		1.65	195				3.4			
	60	10:59		140	283.904						
AVERAGE (TOTAL)				139	(2.996)	79	76	3.4	235	69	7.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/6/75
Filter Heater Setting: 90
Test Number: EPA Method 8 Sample-3
Probe Heater Setting: 90
Field Person: RCM
Nozzle Number: --, Dia.(in.): 0.188
Filter Number: --
Pitot Tube No. 18, Corr.Factor: 0.838
Barometric Pressure ("Hg): 28.80
Meter Box No. RAC-1, Corr.Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture(%): 1
Plume Appearance: --
Condensate Volume(ml): --
Ambient Temperature(°F): 68
Silica Gel Weight Gain(g): --
Record all Data Every 0.25 Minutes
Leak Rate 0.01 CFM at 18 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-7	0	11:27	1.4	86	298.783	86	82	3.4	220	70	5.0
	15		1.55	90				3.4			
	30		1.55	125				3.4			
	45		1.45	115				3.4			
	60	11:28		100	299.789						
S-7	0	11:41	1.35	84	299.793	84	80	3.4	220	70	5.0
	15		1.4	125				3.4			
	30		1.5	220				3.4			
	45		1.4	180				3.4			
	60	11:42		125	300.805						
S-7	0	11:50	1.35	84	300.808	84	82	3.4	220	70	5.5
	15		1.40	130				3.4			
	30		1.55	210				3.4			
	45		1.45	160				3.4			
	60	11:51		120	301.820						
AVERAGE (TOTAL)				130	(2.958)	85	81	3.4	220	70	5.2

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/6/75
Test Number: EPA Method 8 Sample-4
Field Person: RCM
Filter Number: --
Barometric Pressure ("Hg): 28.80
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): 69
Record all Data Every 0.25 **Minutes**

Filter Heater Setting: 90
Probe Heater Setting: 90
Nozzle Number: -- **,Dia.(in.):** 0.188
Pitot Tube No. 18 **,Corr.Factor:** 0.838
Meter Box No. RAC-1 **,Corr.Factor:** 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.00 **CFM at** 16 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	13:38	1.30	83	317.018	78	76	3.4	220	72	6.0
	15		1.5	125				3.4			
	30		1.55	200				3.4			
	45		1.45	160				3.4			
	60	13:39		115	318.018						
S-7	0	13:55	1.40	85	318.023	80	78	3.4	240	72	6.0
	15		1.45	110				3.4			
	30		1.60	180				3.4			
	45		1.45	175				3.4			
	60	13:56		120	319.033						
S-7	0	14:10	1.40	84	319.036	80	79	3.4	240	72	6.0
	15		1.45	105				3.4			
	30		1.65	240				3.4			
	45		1.45	185				3.4			
	60	14:11		135	320.048						
AVERAGE (TOTAL)				140	(2.951)	79	78	3.4	233	72	6.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/6/75
Filter Heater Setting: 90
Test Number: EPA Method 8 Sample-5
Probe Heater Setting: 90
Field Person: RCM
Nozzle Number: --- , Dia. (in.): 0.188
Filter Number: ---
Pitot Tube No. 18 , Corr. Factor: 0.838
Barometric Pressure ("Hg): 28.80
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -4.4
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: ---
Condensate Volume (ml): ---
Ambient Temperature (°F): 72
Silica Gel Weight Gain (g): ---
Record all Data Every 0.25 Minutes
Leak Rate 0.00 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	14:58	1.30	85	335.313	84	81	3.4	220	74	5.0
	15		1.5	130				3.4			
	30		1.5	205				3.4			
	45		1.40	170				3.4			
	60	14:59		135	336.312						
S-7	0	15:10	1.35	84	336.315	80	78	3.4	220	72	5.0
	15		1.6	175				3.4			
	30		1.6	325				3.4			
	45		1.55	225				3.4			
	60	15:11		150	337.329						
S-7	0	15:22	1.4	83	337.332	80	78	3.4	240	74	5.2
	15		1.45	135				3.4			
	30		1.55	180				3.4			
	45		1.5	190				3.4			
	60	15:23		125	338.365						
AVERAGE (TOTAL)				160	(2.973)	81	79	3.4	227	73	5.1

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/9/75
Test Number: EPA Method 8 Sample-6
Field Person: RCM
Filter Number: --
Barometric Pressure ("Hg): 29.42
Stack Static Pressure ("H_2O): -4.6
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): 70
Record all Data Every 0.25 **Minutes**

Filter Heater Setting: 95
Probe Heater Setting: 90
Nozzle Number: -- **,Dia.(in.):** 0.188
Pitot Tube No. 18**,Corr.Factor:** 0.838
Meter Box No. RAC-1**,Corr.Factor:** 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.00 **CFM at** 15 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	10:58	1.30	98	353.899	72	72	3.4	235	70	5.0
	15		1.5	160				3.4			
	30		1.6	245				3.4			
	45		1.4	195				3.4			
	60	10:59		140	354.772						
S-7	0	11:15	1.30	92	354.778	75	74	3.4	250	73	6.0
	15		1.5	105				3.4			
	30		1.65	225				3.4			
	45		1.5	195				3.4			
	60	11:16		145	355.763						
S-7	0	11:28	1.35	90	355.766	75	75	3.4	240	75	6.0
	15		1.4	120				3.4			
	30		1.55	300				3.4			
	45		1.45	210				3.4			
	60	11:29		150	356.757						
AVERAGE (TOTAL)				165	(2.784)	74	74	3.4	242	73	5.7

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/9/75

Test Number: EPA Method 8 Sample-7

Field Person: RCM

Filter Number: --

Barometric Pressure ("Hg): 29.42

Stack Static Pressure ("H_2O): -4.6

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature(°F): 72

Record all Data Every 0.25 Minutes

Filter Heater Setting: 90

Probe Heater Setting: 90

Nozzle Number: -- ,Dia.(in.): 0.188

Pitot Tube No. 18 ,Corr.Factor: 0.838

Meter Box No. BAC-1 ,Corr.Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture(%): 1

Condensate Volume(ml): --

Silica Gel Weight Gain(g): --

Leak Rate 0.00 CFM at 18 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-7	0	13:35	1.35	93	372.869	70	70	3.4	245	75	5.0
	15		1.35	135				3.4			
	30		1.65	210				3.4			
	45		1.5	210				3.4			
	60	13:36		150	373.820						
S-7	0	13:45	1.35	97	373.824	74	72	3.4	250	75	5.5
	15		1.5	125				3.4			
	30		1.6	210				3.4			
	45		1.4	190				3.4			
	60	13:46		135	374.812						
S-7	0	14:03	1.40	103	374.815	76	74	3.4	240	77	5.5
	15		1.40	115				3.4			
	30		1.55	190				3.4			
	45		1.5	200				3.4			
	60	14:04		150	375.794			3.4			
AVERAGE (TOTAL)				154	(2.849)	73	72	3.4	245	76	5.3

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/9/75

Test Number: EPA Method 8 Sample-8

Field Person: RCM

Filter Number: --

Barometric Pressure ("Hg): 29.42

Stack Static Pressure ("H_2O): -5.2

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature(°F): 72

Record all Data Every 0.25 Minutes

Filter Heater Setting: 95

Probe Heater Setting: 95

Nozzle Number: --, Dia.(in.): 0.188

Pitot Tube No. 18, Corr. Factor: 0.838

Meter Box No. RAC-1, Corr. Factor: 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture(%): 1

Condensate Volume(ml): --

Silica Gel Weight Gain(g): --

Leak Rate 0.00 CFM at 18 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	14:32	1.40	102	390.383	75	75	3.4	240	76	5.5
	15		1.40	120				3.4			
	30		1.55	190				3.4			
	45		1.45	180				3.4			
	60	14:33		150	391.356						
S-7	0	14:47	1.35	99	391.358	75	75	3.4	245	76	6.0
	15		1.55	160				3.4			
	30		1.65	285				3.4			
	45		1.45	240				3.4			
	60	14:48		175	392.330						
S-7	0	15:02	1.40	108	392.333	76	76	3.4	240	77	6.0
	15		1.40	175				3.4			
	30		1.65	295				3.4			
	45		1.55	225				3.4			
	60	15:03		175	393.305						
AVERAGE (TOTAL)				179	(2.846)	75	75	3.4	242	76	5.8

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/10/75
Filter Heater Setting: 90
Test Number: EPA Method 8 Sample-9
Probe Heater Setting: 90
Field Person: RCM
Nozzle Number: -- **, Dia. (in.):** 0.188
Filter Number: --
Pitot Tube No. 18**, Corr. Factor:** 0.838
Barometric Pressure ("Hg): 29.52
Meter Box No. RAC-1**, Corr. Factor:** 0.974
Stack Static Pressure ("H_2O): -5.2
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): --
Ambient Temperature (°F): 65
Silica Gel Weight Gain (g): --
Record all Data Every 0.25 **Minutes**
Leak Rate 0.00 **CFM at** 15 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	09:33	1.40	94	410.298	68	68	3.4	200	70	6.0
	15		1.4	115				3.4			
	30		1.65	175				3.4			
	45		1.45	190				3.4			
	60	09:34		135	411.271						
S-7	0	09:50	1.40	104	411.273	68	68	3.4	240	72	6.5
	15		1.40	110				3.4			
	30		1.7	170				3.4			
	45		1.55	275				3.4			
	60	09:51		190	412.274						
S-7	0	10:14	1.35	98	412.281	70	70	3.4	240	74	6.5
	15		1.6	140				3.4			
	30		1.8	250				3.4			
	45		0.9	250				3.4			
	60	10:15		175	413.259						
AVERAGE (TOTAL)				165	(2.884)	69	69	3.4	227	72	6.3

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/5/75

Test Number: EPA Method 8 Sample-1

Field Person: VWH/GMS

Filter Number: --

Barometric Pressure ("Hg): 28.85

Stack Static Pressure ("H_2O): -2.6

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): 75

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250

Probe Heater Setting: 95

Nozzle Number: -- ,Dia.(in.): 0.256

Pitot Tube No. 19,Corr.Factor: 0.854

Meter Box No. RAC-4,Corr.Factor: 0.991

Meter Isokinetic Factor: 1685

Assumed Moisture(%): --

Condensate Volume(ml): --

Silica Gel Weight Gain(g): --

Leak Rate 0.001 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-6	0	15:02	0.69	123	478.843	80	80	3.3	280	82	
	30		0.65	125	479.3			3.3	280		14.0
	60	15:03	0.67	128	479.723	78	80	3.3	280	82	14.0
N-6	0	15:22	0.70	120		80	80	3.3	280	82	14.0
	30		0.60	122	480.3	80	80	3.3			14.0
	60	15:23	0.68	124	480.731	80	80	3.3	290	79	14.0
N-6	0	16:13	0.68	125		79	80	3.3	290	80	14.0
	30		0.68	126	481.1			3.3			
	60	16:14	0.68	128	481.725	79	80	3.3	290	80	
N-6	0	16:25	0.68	125		79	80	3.3	260	84	14.0
	30		0.68	130	482.3	79	80	3.3			
	60	16:26	0.68	133	482.732	79	80	3.3	260	82	
AVERAGE (TOTAL)				126	(3.913)	79	80	3.3	279	81	14.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/6/75
Test Number: EPA Method 8 Sample-2
Field Person: FIC/GMS
Filter Number: --
Barometric Pressure ("Hg): 28.80
Stack Static Pressure ("H_2O): -2.6
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): 75
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250
Probe Heater Setting: 95
Nozzle Number: --, Dia.(in.): 0.256
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%): --
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
℄	0	10:04	0.69	115	483.50	70	70	3.3	250	65	4.0
	30		0.71	115	484.1	70	70	3.3	250	65	4.0
	60	10:05	0.71	120	484.52	70	70	3.3	250	65	4.1
℄	0	10:27	0.72	120	484.52	71	71	3.3	250	65	4.2
	30		0.72	120	485.65	71	71	3.3	250	65	4.2
	60	10:28	0.72	120	485.472	71	71	3.3	250	65	4.2
℄	0	10:49	0.72	115	485.472	71	71	3.3	250	72	4.0
	30		0.71	115	486.1	71	71	3.3	250	72	4.0
	60	10:50	0.71	115	486.42	71	71	3.3	250	72	4.0
AVERAGE (TOTAL)				117	(2.894)	71	71	3.3	250	67	4.1

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/6/75

Test Number: EPA Method 8 Sample-3

Field Person: FIC/GMS

Filter Number: --

Barometric Pressure ("Hg): 28.80

Stack Static Pressure ("H_2O): -2.6

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): 75

Record all Data Every 0.5 **Minutes**

Filter Heater Setting: 250

Probe Heater Setting: 95

Nozzle Number: -- **,Dia.(in.):** 0.256

Pitot Tube No. 19 **,Corr.Factor:** 0.854

Meter Box No. RAC-4' **,Corr.Factor:** 0.991

Meter Isokinetic Factor: 1685

Assumed Moisture(%): --

Condensate Volume(ml): --

Silica Gel Weight Gain(g): --

Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
℄	0	11:27	0.70	115	495.65	71	71	3.3	260	72	4.0
	30		0.71	120	496.1	71	71	3.3	260	72	4.0
	60	11:28	0.71	125	496.692	71	71	3.3	260	72	4.0
℄	0	11:41	0.70	120	496.692	71	71	3.3	265	72	4.0
	30		0.70	120	497.1	71	71	3.3	265	72	4.0
	60	11:42	0.71	120	497.855	71	71	3.3	265	72	4.0
℄	0	11:50	0.71	120	497.855	71	71	3.3	265	72	4.0
	30		0.71	120	498.3	71	71	3.3	265	72	4.0
	60	11:51	0.71	120	498.831	71	71	3.3	265	72	4.0
AVERAGE (TOTAL)				120	(3.152)	71	71	3.3	263	72	4.0

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/6/75

Filter Heater Setting: 250

Test Number: EPA Method 8 Sample-4

Probe Heater Setting: 95

Field Person: FIC/GMS

Nozzle Number: -- , Dia.(in.): 0.256

Filter Number: --

Pitot Tube No. 19 , Corr. Factor: 0.854

Barometric Pressure ("Hg): 28.80

Meter Box No. RAC-4 , Corr. Factor: 0.991

Stack Static Pressure ("H_2O): -2.6

Meter Isokinetic Factor: 1685

Stack Dimensions: 90" I.D.

Assumed Moisture(%): --

Plume Appearance: --

Condensate Volume(ml): --

Ambient Temperature(°F): 75

Silica Gel Weight Gain(g): --

Record all Data Every 0.5 Minutes

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
℄	0	13:38	0.70	120	506.786	71	71	3.3	260	76	4.0
	30		0.71	120	507.211	71	71	3.3	260	76	4.0
	60	13:39	0.71	120	507.782	71	71	3.3	260	76	4.0
℄	0	13:55	0.70	120	507.782	71	71	3.3	260	76	4.0
	30		0.71	120	508.2	71	71	3.3	260	76	4.0
	60	13:56	0.71	120	508.754	71	71	3.3	260	76	4.0
℄	0	14:10	0.69	120	508.754	71	71	3.3	260	76	4.0
	30		0.70	120	509.3	71	71	3.3	275	80	4.0
	60	14:11	0.70	120	509.743	71	71	3.3	275	80	4.0
AVERAGE (TOTAL)				120	(2.930)	71	71	3.3	263	77	4.0

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/6/75

Test Number: EPA Method 8 Sample-5

Field Person: FIC/GMS

Filter Number: --

Barometric Pressure ("Hg): 28.80

Stack Static Pressure ("H_2O): -2.6

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): 75

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250

Probe Heater Setting: 95

Nozzle Number: --, Dia.(in.): 0.256

Pitot Tube No. 19, Corr.Factor: 0.854

Meter Box No. RAC-4, Corr.Factor: 0.991

Meter Isokinetic Factor: 1685

Assumed Moisture(%): --

Condensate Volume(ml): --

Silica Gel Weight Gain(g): --

Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
℄	0	14:58	0.70	120	520.088	72	72	3.3	250	70	4.0
	30		0.68	120	520.5	72	72	3.3	250	70	4.0
	60	14:59	0.68	120	521.064	72	72	3.3	250	70	4.0
℄	0	15:10	0.66	120	521.064	72	72	3.3	260	70	4.0
	30		0.67	120	521.5	72	72	3.3	260	70	4.0
	60	15:11	0.67	120	522.038	72	72	3.3	260	70	4.0
℄	0	15:22	0.66	120	522.038	72	72	3.3	260	70	4.0
	30		0.67	120	522.6	72	72	3.3	260	70	4.0
	60	15:23	0.67	120	523.014	72	72	3.3	260	70	4.0
AVERAGE (TOTAL)				120	(2.900)	72	72	3.3	257	70	4.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/9/75
Filter Heater Setting: 250
Test Number: EPA Method 8 Sample-6
Probe Heater Setting: 80
Field Person: GMS/RJG
Nozzle Number: -- **,Dia.(in.):** 0.256
Filter Number: --
Pitot Tube No. 19**,Corr.Factor:** 0.854
Barometric Pressure ("Hg): 29.42
Meter Box No. RAC-4**,Corr.Factor:** 0.991
Stack Static Pressure ("H_2O): -2.6
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture(%): --
Plume Appearance: --
Condensate Volume(ml): --
Ambient Temperature(°F): 75
Silica Gel Weight Gain(g): --
Record all Data Every 0.5 **Minutes**
Leak Rate ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
NW-6	0	10:58	0.65	127	535.996	67	68	3.3	250	70	5.0
	30		0.64	127	535.5	68	68	3.3	260	70	5.0
	60	10:59	0.64	127	535.918	70	70	3.3	270	70	5.0
NW-6	0	11:15	0.67	126	535.918	70	71	3.3	270	74	5.0
	30		0.67	126	536.4	70	71	3.3	280	76	5.0
	60	11:16	0.67	126	536.854	70	71	3.3	290	78	5.0
NW-6	0	11:28	0.70	126	536.854	70	71	3.3	280	77	5.0
	30		0.67	126	537.3	70	71	3.3	260	77	5.0
	60	11:29	0.64	126	537.818	70	71	3.3	250	77	5.0
AVERAGE (TOTAL)				126	(1.806)	69	70	3.3	268	74	5.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/9/75
Filter Heater Setting: 250
Test Number: EPA Method 8 Sample-7
Probe Heater Setting: 80
Field Person: GMS/RJG
Nozzle Number: -- **,Dia.(in.):** 0.256
Filter Number: --
Pitot Tube No. 19 **,Corr.Factor:** 0.854
Barometric Pressure ("Hg): 29.42
Meter Box No. RAC-4 **,Corr.Factor:** 0.991
Stack Static Pressure ("H_2O): -2.6
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture(%): --
Plume Appearance: --
Condensate Volume(ml): --
Ambient Temperature(°F): 75
Silica Gel Weight Gain(g): --
Record all Data Every 0.5 **Minutes**
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
NW-6	0	13:22	0.63	125	550.659	70	72	3.3	230	74	5.0
	30		0.63	126	551.1	70	72	3.3	250	74	5.0
	60	13:23	0.65	126	551.646	70	72	3.3	250	74	5.0
NW-6	0	13:45	0.67	125	551.646	72	73	3.3	260	75	5.0
	30		0.66	125	552.1	72	73	3.3	260	75	5.0
	60	13:46	0.67	125	552.617	72	73	3.3	260	75	5.0
NW-6	0	14:03	0.63	125	552.617	72	73	3.3	250	78	5.0
	30		0.65	126	553.1	72	73	3.3	250	78	5.0
	60	14:04	0.64	126	553.600	72	73	3.3	250	78	5.0
AVERAGE (TOTAL)				125	(2.917)	71	73	3.3	251	76	5.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/9/75
Filter Heater Setting: 250
Test Number: EPA Method 8 Sample-8
Probe Heater Setting: 80
Field Person: GMS/RJG
Nozzle Number: --, Dia. (in.): 0.256
Filter Number: --
Pitot Tube No. 19, Corr. Factor: 0.854
Barometric Pressure ("Hg): 28.42
Meter Box No. RAC-4 Corr. Factor: 0.991
Stack Static Pressure ("H_2O): -2.6
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture (%): --
Plume Appearance: --
Condensate Volume (ml): --
Ambient Temperature (°F): 75
Silica Gel Weight Gain (g): --
Record all Data Every 0.5 Minutes
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
NW-6	0	14:32	0.64	126	568.563	72	73	3.3	250	82	5.0
	30		0.64	127	569.1	72	73	3.3	260	82	5.0
	60	14:33	0.64	127	569.613	72	73	3.3	260	82	5.0
NW-6	0	14:47	0.66	125	569.613	72	73	3.3	245	80	5.0
	30		0.64	130	570.1	72	73	3.3	250	80	5.0
	60	14:48	0.63	130	570.572	72	73	3.3	260	80	5.0
NW-6	0	15:02	0.64	126	570.572	73	74	3.3	230	80	5.0
	30		0.62	135	571.0	73	74	3.3	235	80	5.0
	60	15:03	0.62	135	571.539	73	74	3.3	235	80	5.0
AVERAGE (TOTAL)				129	(2.949)	72	73	3.3	247	81	5.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/10/75
Test Number: EPA Method 8 Sample-9
Field Person: GMS/RJG
Filter Number: --
Barometric Pressure ("Hg): 29.52
Stack Static Pressure ("H_2O): -2.6
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): 75
Record all Data Every 0.5 **Minutes**
Filter Heater Setting: 250
Probe Heater Setting: 80
Nozzle Number: -- **,Dia.(in.):** 0.256
Pitot Tube No. 19 **,Corr.Factor:** 0.854
Meter Box No. RAC-4 **,Corr.Factor:** 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%): --
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
NW-6	0	09:33	0.62	120	586.894	66	67	3.3	230	70	5.0
	30		0.64	122	587.3	66	67	3.3	250	70	5.0
	60	09:34	0.64	124	587.740	66	67	3.3	260	70	5.0
NW-6	0	09:50	0.64	130	587.740	66	68	3.3	250	72	5.0
	30		0.64	132	588.2	66	68	3.3	255	72	5.0
	60	09:51	0.64	132	588.713	66	68	3.3	255	72	5.0
NW-6	0	10:14	0.63	130	588.996	67	68	3.3	255	72	5.0
	30		0.63	132	589.4	68	70	3.3	255	72	5.0
	60	10:15		132	589.843	68	70	3.3	255	72	5.0
AVERAGE (TOTAL)				128	(2.922)	67	68	3.3	252	71	5.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 2-6-75
Filter Heater Setting:
Test Number: Preliminary NaOH-1
Probe Heater Setting:
Field Person: RCM
Nozzle Number: , Dia. (in.):
Filter Number:
Pitot Tube No. , Corr. Factor:
Barometric Pressure ("Hg): 29.28
Meter Box No. MAC-5, Corr. Factor: 0.999
Stack Static Pressure ("H_2O): -3.0
Meter Isokinetic Factor:
Stack Dimensions: 66" I.D.
Assumed Moisture (%):
Plume Appearance:
Condensate Volume (ml): -6
Ambient Temperature (°F):
Silica Gel Weight Gain (g): 6
Record all Data Every Minutes
Leak Rate CFM at "Hg

Traverse Point No.	Time Sampling (min)	Time Clock	Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter Volume (ft^3)	Dry Gas Meter Temp (°F) Inlet	Dry Gas Meter Temp (°F) Outlet	Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
CL		11:30		38	961.605	42	39	2.5			4.0
CL		11:45		34	973.8	39	38	2.5			4.5
CL		12:00		34	986.0	39	37	2.5			5.0
CL		12:15		32	998.3	40	36	2.5			5.0
CL		12:30			1010.275						
AVERAGE (TOTAL)				34	(48.621)	40	38	2.5	—	—	4.62

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 2-6-75
Test Number: Preliminary NaOH-2
Field Person: RCM
Filter Number:
Barometric Pressure ("Hg): 29.28
Stack Static Pressure ("H_2O): -3.0
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F):
Record all Data Every ______ **Minutes**

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____**,Dia.(in.):**
Pitot Tube No. ____**,Corr.Factor:**
Meter Box No. MAC-5**,Corr.Factor:** 0.999
Meter Isokinetic Factor:
Assumed Moisture(%):
Condensate Volume(ml): -3
Silica Gel Weight Gain(g): 8
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		12:38		35	10.275	38	35	2.5			6.5
CL		12:53		38	22.6	39	35	2.5			6.5
CL		13:08		45	34.9	39	35	2.5			6.5
CL		13:23		40	47.1	40	35	2.5			6.5
CL		13:38			59.462						
AVERAGE (TOTAL)				40	(49.138)	39	35	2.5	—	—	6.5

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 2-6-75
Test Number: Preliminary NaOH-3
Field Person: RCM
Filter Number:
Barometric Pressure ("Hg): 29.28
Stack Static Pressure ("H_2O): -3.0
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F):
Record all Data Every ____ Minutes

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____, Dia.(in.):
Pitot Tube No. ____, Corr. Factor:
Meter Box No. MAC-5, Corr. Factor: 0.999
Meter Isokinetic Factor:
Assumed Moisture(%):
Condensate Volume(ml): -4
Silica Gel Weight Gain(g): 9
Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		14:03		33	59.462	38	36	3.0			4.5
CL		14:18		38	72.6	37	34	3.0			6.0
CL		14:33		33	86.1	39	34	3.0			6.2
CL		14:48		35	99.5	40	35	3.0			6.0
CL		15:03			112.463						
AVERAGE (TOTAL)				35	(52.948)	38	35	3.0	—	—	5.68

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 2-14-75
Test Number: Preliminary NaOH-4
Field Person: RJG
Filter Number:
Barometric Pressure ("Hg): 29.76
Stack Static Pressure ("H_2O):
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F):
Record all Data Every ______ Minutes

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ___, Dia. (in.):
Pitot Tube No. ___, Corr. Factor:
Meter Box No. MAC-5, Corr. Factor: 0.999
Meter Isokinetic Factor:
Assumed Moisture (%):
Condensate Volume (ml): -4
Silica Gel Weight Gain (g): 8
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		11:18		40	400.238	29	27	3.0			7.0
CL		11:33		40	413.17	28	26	3.0			6.0
CL		11:48		40	426.12	29	26	3.0			6.0
CL		12:03		40	439.03	30	26	3.0			6.0
CL		12:18			452.105						
AVERAGE (TOTAL)				40	(51.815)	29	26	3.0			6.2

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 2-14-75

Test Number: Preliminary NaOH-5

Field Person: RJG

Filter Number:

Barometric Pressure ("Hg): 29.76

Stack Static Pressure ("H_2O):

Stack Dimensions: 66" I.D.

Plume Appearance:

Ambient Temperature(°F):

Record all Data Every ______ Minutes

Filter Heater Setting:

Probe Heater Setting:

Nozzle Number:____,Dia.(in.):

Pitot Tube No.___,Corr.Factor:

Meter Box No. MAC-5, Corr.Factor: 0.999

Meter Isokinetic Factor:

Assumed Moisture(%):

Condensate Volume(ml): -4

Silica Gel Weight Gain(g): 9

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
CL		12:20		40	452.505	30	26	3.0			8.0
CL		12:35		40	465.72	31	27	3.0			7.0
CL		12:50		42	478.93	32	28	3.0			7.0
CL		13:05		44	491.96	32	28	3.0			7.0
CL		13:20			505.242						
AVERAGE (TOTAL)				42	(52.684)	31	27	3.0			7.2

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 2-14-75

Filter Heater Setting:

Test Number: Preliminary NaOH-6

Probe Heater Setting:

Field Person: RJG

Nozzle Number: , Dia. (in.):

Filter Number:

Pitot Tube No. , Corr. Factor:

Barometric Pressure ("Hg): 29.76

Meter Box No. MAC-5, Corr. Factor: 0.999

Stack Static Pressure ("H_2O): -2.5

Meter Isokinetic Factor:

Stack Dimensions: 66" I.D.

Assumed Moisture (%):

Plume Appearance:

Condensate Volume (ml): -1

Ambient Temperature (°F):

Silica Gel Weight Gain (g): 8

Record all Data Every ________ Minutes

Leak Rate ________ CFM at ________ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		13:24		46	505.242	32	29	3.0			7.0
CL		13:39		46	518.48	33	30	3.0			7.0
CL		13:54		45	531.66	35	30	3.0			7.0
CL		14:09		48	544.73	34	30	3.0			7.0
CL		14:24			557.866						
AVERAGE (TOTAL)				46	(52.571)	34	30	3.0			7.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/3/75
Filter Heater Setting: 100
Test Number: NaOH-1
Probe Heater Setting: 100
Field Person: RCM
Nozzle Number: --, Dia. (in.): 0.188
Filter Number: A-147-48
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.15
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.1
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): --
Ambient Temperature (°F): 67
Silica Gel Weight Gain (g): --
Record all Data Every 0.5 Minutes
Leak Rate 0.02 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	16:40	1.30	80	250.666	78	78	1.92	200	70	3.5
	30		1.55	160				2.05			
	60			150	251.302						
	Max		(1.65)	(250)							
S-7	0	16:53	1.35	80	251.302	80	80	2.01	255	72	3.5
	30		1.50	220				1.80			
	60			160	252.072						
	Max		(1.55)	(285)							
S-7	0	17:10	1.35	84	252.072	81	81	2.00	240	74	4.0
	30		1.5	280				1.65			
	60			250	252.839						
	Max		(1.7)	(570)							
AVERAGE (TOTAL)				163	(2.117)	80	80	1.90	232	72	3.7

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/4/75

Test Number: NaOH-2

Field Person: RCM

Filter Number: A-147-50

Barometric Pressure ("Hg): 29.18

Stack Static Pressure ("H_2O): -4.4

Stack Dimensions: 66" I.D.

Plume Appearance: --

Ambient Temperature (°F): 65

Record all Data Every 0.5 **Minutes**

Filter Heater Setting: 90

Probe Heater Setting: 90

Nozzle Number: -- **, Dia. (in.):** 0.188

Pitot Tube No. 18 **, Corr. Factor:** 0.838

Meter Box No. RAC-1 **, Corr. Factor:** 0.974

Meter Isokinetic Factor: 1720

Assumed Moisture (%): 1

Condensate Volume (ml): --

Silica Gel Weight Gain (g): --

Leak Rate 0.015 **CFM at** 17 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	09:04	1.30	75	253.168	75	75	1.94	230	72	3.0
	30		1.5	150				2.0			3.0
	60			165	253.838						
	Max		(1.55)	(225)							
S-7	0	09:14	1.35	80	253.838	80	80	2.01	250	72	3.0
	30		1.55	180				2.03			3.0
	60			150	254.616						
	Max		(1.60)	(260)							
S-7	0	09:26	1.30	84	254.616	82	82	1.93	260	74	3.5
	30		1.6	180				2.03			3.5
	60			150	255.410						
	Max		(1.65)	(250)							
AVERAGE (TOTAL)				135	(2.184)	79	79	1.99	247	73	3.2

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/4/75
Test Number: NaOH-3
Field Person: RCM
Filter Number: A-147-02
Barometric Pressure ("Hg): 29.15
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): 72
Record all Data Every 0.5 Minutes

Filter Heater Setting: 90
Probe Heater Setting: 90
Nozzle Number: --, Dia.(in.): 0.188
Pitot Tube No. 18, Corr. Factor: 0.838
Meter Box No. RAC-1, Corr. Factor: 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.02 CFM at 17 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft³)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	10:49	1.30	82	256.229	78	78	1.92	210	72	3.0
	30		1.5	170				1.91			3.0
	60			270	257.014						
	Max		(1.6)	(275)							
S-7	0	11:04	1.35	84	257.014	80	80	2.00	225	74	3.3
	30		1.35	90				1.97			3.3
	60			280	257.801						
	Max		(1.7)	(290)							
S-7	0	11:16	1.35	85	257.801	80	80	1.99	240	74	3.3
	30		1.45	100				2.08			3.5
	60			238	258.680						
	Max		(1.6)	(238)							
AVERAGE (TOTAL)				155	(2.387)	79	79	1.98	225	73	3.2

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/4/75
Filter Heater Setting: 90
Test Number: NaOH-4
Probe Heater Setting: 90
Field Person: RCM
Nozzle Number: -- ,Dia.(in.): 0.188
Filter Number: A-147-03
Pitot Tube No. 18 ,Corr.Factor: 0.838
Barometric Pressure ("Hg): 29.17
Meter Box No. RAC-1 ,Corr.Factor: 0.974
Stack Static Pressure ("H_2O): -4.5
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture(%): 1
Plume Appearance: --
Condensate Volume(ml): --
Ambient Temperature(°F): 75
Silica Gel Weight Gain(g): --
Record all Data Every 0.5 Minutes
Leak Rate 0.01 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
S-7	0	13:00	1.30	75	258.802	78	78	1.95	260	75	3.0
	30		1.45	150				1.92			3.0
	60			130	259.570						
	Max		(1.55)	(220)							
S-7	0	13:10	1.30	82	259.582	80	80	1.92	230	82	3.0
	30		1.4	220				1.65			3.2
	60			130	260.326						
	Max		(1.55)	(255)							
S-7	0	13:17	1.25	82	260.327	80	80	1.86	225	80	3.2
	30		1.40	205				1.69			3.4
	60			135	261.054						
	Max		(1.50)	(235)							
AVERAGE (TOTAL)				134	(2.193)	79	79	1.83	238	79	3.1

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/4/75
Filter Heater Setting: 90
Test Number: NaOH-5
Probe Heater Setting: 90
Field Person: RCM
Nozzle Number: --, Dia. (in.): 0.188
Filter Number: A-147-06
Pitot Tube No. 18, Corr. Factor: 0.838
Barometric Pressure ("Hg): 29.11
Meter Box No. RAC-1, Corr. Factor: 0.974
Stack Static Pressure ("H_2O): -5.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture (%): 1
Plume Appearance: --
Condensate Volume (ml): --
Ambient Temperature (°F): 72
Silica Gel Weight Gain (g): --
Record all Data Every 0.5 Minutes
Leak Rate 0.022 CFM at 14 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	14:58	1.30	82	261.319	70	70	1.89	200	64	2.5
	30		1.50	220				1.74			2.5
	60			125	262.064						
	Max		(1.55)	(245)							
S-7	0	15:08	1.35	85	262.065	70	70	1.96	215	67	3.0
	30		1.55	240				1.75			3.0
	60			125	262.820						
	Max		(1.7)	(245)							
S-7	0	15:19	1.35	85	262.841	70	70	1.96	240	70	3.0
	30		1.50	165				1.90			3.2
	60			115	263.607						
	Max		(1.60)	(195)							
AVERAGE (TOTAL)				138	(2.229)	70	70	1.87	218	67	2.9

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/5/75
Test Number: NaOH-6
Field Person: RCM
Filter Number: A-147 09
Barometric Pressure ("Hg): 28.85
Stack Static Pressure ("H_2O): -5.5
Stack Dimensions: 66" I.D.
Plume Appearance: --
Ambient Temperature(°F): 70
Record all Data Every 0.5 **Minutes**
Filter Heater Setting: 90
Probe Heater Setting: 90
Nozzle Number: --, **Dia.(in.):** 0.188
Pitot Tube No. 18, **Corr.Factor:** 0.838
Meter Box No. RAC-1, **Corr.Factor:** 0.974
Meter Isokinetic Factor: 1720
Assumed Moisture(%): 1
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.01 **CFM at** 17 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	12:26	1.40	75	266.818	72	72	2.07	220	72	3.0
	30		1.50	225				1.73			3.0
	60			175	267.591						
	Max		(1.70)	(275)							
S-7	0	12:40	1.40	81	267.600	75	75	2.06	240	76	3.0
	30		1.5	150				1.96			3.0
	60			105	268.383						
	Max		(1.5)	(150)							
S-7	0	12:50	1.4	85	268.385	80	80	2.07	230	76	3.2
	30		1.45	150				1.91			3.2
	60			110	269.179						
	Max		(1.50)	(155)							
AVERAGE (TOTAL)				128	(2.300)	76	76	1.97	230	75	3.1

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/3/75
Test Number: NaOH-1
Field Person: VWH/GMS
Filter Number: A-147-45
Barometric Pressure ("Hg): 29.15
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): 77
Record all Data Every 0.5 Minutes

Filter Heater Setting: 260
Probe Heater Setting: 90
Nozzle Number: --, Dia.(in.): 0.256
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%): 2
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.002 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-6	0	16:40	—	120	457.650	74	76				
	30		0.65	117	458.2			3.03			2.0
	60		0.70	125	458.66	75	75	3.2	270	74	
N-6	0	16:53	0.70	120		76	76	3.2			
	30		0.70	116		76	78	3.2			2.0
	60		0.70	126	459.735	76	77	3.2	275	75	2.0
N-6	0	17:10	0.73	118		75	75	3.35			
	30		0.73	116	460.2			3.35			1.5
	60		0.70	125	460.727	75	75	3.2	280	76	1.5
AVERAGE (TOTAL)				120	(3.049)	75	76	3.22	275	75	1.8

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/4/75
Filter Heater Setting: 270
Test Number: NaOH-2
Probe Heater Setting: 80
Field Person: VWH
Nozzle Number: -- **,Dia.(in.):** 0.256
Filter Number: A-147-49
Pitot Tube No. 19 **,Corr.Factor:** 0.854
Barometric Pressure ("Hg): 29.18
Meter Box No. RAC-4 **,Corr.Factor:** 0.991
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture(%): 2.7
Plume Appearance: --
Condensate Volume(ml): --
Ambient Temperature(°F): 71
Silica Gel Weight Gain(g): --
Record all Data Every 0.5 **Minutes**
Leak Rate 0.003 **CFM at** 15 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-6	0	09:04	0.65	110	462.056	74	74	3.03	230	72	
	30		0.65	112		74	75	3.03			
	60		0.65	118	462.978	74	75	3.03	255	68	1.0
N-6	0	09:14	0.60	115		74	76	2.78			
	30		0.60	117	463.45	74	76	2.78			
	60		0.60	122	463.975	74	76	2.78	270	68	1.5
N-6	0	09:26	0.63	116		75	76	2.93			
	30		0.63	116	464.4	75	76	2.93			
	60		0.63	123	464.856	75	76	2.93	280	70	1.5
AVERAGE (TOTAL)				117	(2.775)	74	76	2.91	259	70	1.3

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/4/75

Test Number: NaOH-3

Field Person: VWH/GMS

Filter Number: A-147-01

Barometric Pressure ("Hg): 29.15

Stack Static Pressure ("H_2O): -0.21

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): 80

Record all Data Every 0.5 **Minutes**

Filter Heater Setting: 280

Probe Heater Setting: 85

Nozzle Number: -- **,Dia.(in.):** 0.256

Pitot Tube No. 19 **,Corr.Factor:** 0.854

Meter Box No. RAC-4 **,Corr.Factor:** 0.991

Meter Isokinetic Factor: 1685

Assumed Moisture(%): 2.7

Condensate Volume(ml): --

Silica Gel Weight Gain(g): --

Leak Rate 0.003 **CFM at** 15 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-6	0	10:49	0.65	115	465.248	75	75	3.03	270	82	
	30		0.65	115	465.85	75	76	3.03			1.0
	60		0.65	122	466.225	75	76	3.03	280	74	1.0
N-6	0	11:04	0.65	115		75	76	3.03	260	78	
	30		0.65	115	466.7	75	77	3.03			1.5
	60		0.65	120	467.247	75	77	3.00	270	76	
N-6	0	11:16	0.65	116		76	78	3.03			
	30		0.65	119	467.7	76	78	3.00			1.0
	60		0.65	121	468.276	76	78	2.97	285	74	1.0
AVERAGE (TOTAL)				118	(3.001)	75	77	3.02	273	77	1.1

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/4/75
Filter Heater Setting: 280
Test Number: NaOH-4
Probe Heater Setting: 85
Field Person: VWH/GMS
Nozzle Number: --, Dia. (in.): 0.256
Filter Number: A-147-04
Pitot Tube No. 19, Corr. Factor: 0.854
Barometric Pressure ("Hg): 29.17
Meter Box No. RAC-4, Corr. Factor: 0.991
Stack Static Pressure ("H_2O): -0.21
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture (%): 2.7
Plume Appearance: --
Condensate Volume (ml): --
Ambient Temperature (°F): 75
Silica Gel Weight Gain (g): --
Record all Data Every 0.5 Minutes
Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-6	0	13:00	0.65	118	468.534	74	75	3.03	270	75	
	30		0.65	121	469.0			3.00			1.5
	60		0.65	125	469.438	74	75	3.00	270	72	1.5
N-6	0	13:10	0.67	117		74	75	3.03			
	30		0.63	121	470.00	74	76	2.97			
	60		0.67	125	470.5	74	76	3.00	240	70	1.5
N-6	0	13:17	0.68	116				3.1	270	75	
	30		0.67	117	471.0	74	76	3.1			
	60		0.65	123	471.475	74	76	30	270	75	1.5
AVERAGE (TOTAL)				120	(2.915)	74	76	3.03	264	73	1.5

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SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/4/75
Test Number: NaOH-5
Field Person: VWH/GMS
Filter Number: A-147-04
Barometric Pressure ("Hg): 29.11
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): 69
Record all Data Every 0.5 Minutes

Filter Heater Setting: 270
Probe Heater Setting: 85
Nozzle Number: --, Dia.(in.): 0.256
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%): 2.7
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.001 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-6	0	14:58	0.70	116	471.873	68	69	3.26	275	68	
	30		0.70	118	472.4	68	69	3.26			1.5
	60		0.73	123	472.886	68	69	3.35	275	65	
N-6	0	15:08	0.73	116		68	69	3.36			
	30		0.70	118	473.4	68	69	3.20			
	60		0.71	125	473.841	68	69	3.25	290	68	1.5
N-6	0	15:19	0.73	117		68	69	3.36			
	30		0.73	120	474.35	68	69	3.36			
	60		0.73	124	474.837	68	69	3.36	290	65	1.5
AVERAGE (TOTAL)				120	(2.937)	68	69	3.31	282	66	1.5

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/5/75
Test Number: NaOH-6
Field Person: VWH/GMS
Filter Number: A-147-08
Barometric Pressure ("Hg): 28.85
Stack Static Pressure ("H_2O): -0.21
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): 68
Record all Data Every 0.5 Minutes

Filter Heater Setting: 270
Probe Heater Setting: 85
Nozzle Number: --, Dia.(in.): 0.256
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%): 2.7
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.001 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-6	0	12:26	0.65	118	475.445	73	74	3.02	230	78	
	30		0.60	120	476.0	73	76	2.80			2.5
	60		0.60	127	476.464	74	74	2.80	255	74	
N-6	0	12:40	0.67	118		76	76	3.15	275	82	
	30		0.67	122		75	76	3.15			
	60		0.65	123	477.453	75	72	3.15	290	76	2.5
N-6	0	12:50	0.65	120		75	76	3.00			
	30		0.65	122	477.95	75	76	3.00			2.5
	60		0.65	125	478.427	75	76	2.0	260	76	2.0
AVERAGE (TOTAL)				122	(2.955)	75	75	2.90	262	77	2.4

NO_x DATA SHEET EPA METHOD 7

Project: Ford Motor Company Field Man: GEH

Sampling Station	Test Number	Flask Number & Volume		1975 Date	Time	Barometric Pressure	Flask Pressure (±)	Temperature (°F)	Final Volume (liters)
Coke Battery A Scrubber Inlet	Prelimi-nary-1	14 2067	Initial	2-4	13:00	29.84	-26.5	30	1.72
			Final	2-5	17:00	29.18	- 0.20	70	
Coke Battery A Scrubber Inlet	Prelimi-nary-2	19 2044	Initial	2-4	13:22	29.84	-26.5	30	1.69
			Final	2-5	17:00	29.18	- 0.40	70	
Coke Battery A Scrubber Inlet	Prelimi-nary-3	20 2088	Initial	2-4	13:30	29.84	-26.5	30	1.87
			Final	2-5	17:00	29.18	- 2.0	70	
			Initial						
			Final						
			Initial						
			Final						
			Initial						
			Final						
			Initial						
			Final						
			Initial						
			Final						

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NO$_x$ DATA SHEET EPA METHOD 7

Project: Ford Motor Company - Coke Battery A Field Man: GMS/RJG

Sampling Station	Test Number	Flask Number & Volume		1975 Date	Time	Barometric Pressure	Flask Pressure (±)	Temperature (°F)	Final Volume (liters)
Scrubber Outlet	NOx-1	19 2044	Initial	6/10	14:30	29.5	-27.0	74	1.76
			Final	6/11	08:11	29.2	- 1.0	62	
Scrubber Outlet	NOx-2	20 2088	Initial	6/10	14:58	29.5	-27.2	74	1.81
			Final	6/11	08:08	29.2	- 1.0	62	
Scrubber Outlet	NOx-3	10 2067	Initial	6/10	15:10	29.5	-27.3	73	1.81
			Final	6/11	08:05	29.2	- 0.8	62	
Scrubber Outlet	NOx-4	8 2065	Initial	6/10	16:39	29.5	-27.4	73	1.82
			Final	6/11	08:03	29.2	- 0.8	62	
Scrubber Outlet	NOx-5	4 2073	Initial	6/10	16:57	29.5	-27.3	71	1.80
			Final	6/11	08:11	29.2	- 1.0	62	
Scrubber Outlet	NOx-6	14 2067	Initial	6/11	14:55	29.15	-26.7	68	1.82
			Final	6/12	08:20	29.35	- 0.6	62	
Scrubber Outlet	NOx-7	19 2044	Initial	6/11	15:16	29.15	-27.1	68	1.82
			Final	6/12	08:19	29.35	- 0.6	62	
Scrubber Outlet	NOx-8	4 2073	Initial	6/11	15:28	29.15	-26.7	68	1.84
			Final	6/12	08:17	29.35	- 0.4	62	

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NO_x DATA SHEET EPA METHOD 7

Project: Ford Motor Company - Coke Battery A **Field Man:** GMS/RJG/GEH

Sampling Station	Test Number	Flask Number & Volume		1975 Date	Time	Barometric Pressure	Flask Pressure (±)	Temperature (°F)	Final Volume (liters)
Scrubber Outlet	NOx-9	8 2065	Initial	6/11	15:38	29.15	-27.1	68	1.84
			Final	6/12	08:15	29.35	- 0.6	62	
Scrubber Outlet	NOx-10	4 2073	Initial	7/18	12:19	29.45	-27.4	84	1.79
			Final	7/22	10:35	29.32	- 0.8	75	
Scrubber Outlet	NOx-11	19 2044	Initial	7/18	12:27	29.45	-26.3	84	1.65
			Final	7/22	10:36	29.32	- 1.5	75	
Scrubber Outlet	NOx-12	20 2088	Initial	7/18	12:39	29.45	-27.3	84	1.80
			Final	7/22	10:37	29.32	- 0.7	75	
Scrubber Outlet	NOx-13	8 2065	Initial	7/18	12:51	29.45	-26.4	84	1.76
			Final	7/22	10:38	29.32	- 0.2	75	
			Initial						
			Final						
			Initial						
			Final						
			Initial						
			Final						

Clayton Environmental Consultants, Inc.

NO_x DATA SHEET EPA METHOD 7

Project: Ford Motor Company - Coke Battery A

Field Man: GMS/RJG/JBS/GEH

Sampling Station	Test Number	Flask Number & Volume		1975 Date	Time	Barometric Pressure	Flask Pressure (±)	Temperature (°F)	Final Volume (liters)
Scrubber Inlet	1	2 2067	Initial	6/10	14:30	29.5	-26.0	66	1.71
			Final	6/11	07:51	29.2	-1.0	62	
Scrubber Inlet	2	1 2064	Initial	6/10	14:58	29.5	-26.1	66	1.68
			Final	6/11	07:45	29.2	-1.5	62	
Scrubber Inlet	3	4 2073	Initial	6/10	15:10	29.5	-26.1	66	1.72
			Final	6/11	07:53	29.2	-1.0	62	
Scrubber Inlet	4	5 2078	Initial	6/10	16:39	29.5	-26.2	66	1.73
			Final	6/11	07:48	29.2	-1.0	62	
Scrubber Inlet	5	6 2067	Initial	6/10	16:57	29.5	-26.0	66	1.43
			Final	6/11	07:43	29.2	-5.0	62	
Scrubber Inlet	6	1 2064	Initial	6/11	14:55	29.15	-26.4	62	1.53
			Final	6/12	08:07	29.35	-4.4	62	
Scrubber Inlet	7	2 2067	Initial	6/11	15:16	29.15	-26.4	62	1.60
			Final	6/12	08:12	29.35	-3.4	62	
Scrubber Inlet	8	3 2060	Initial	6/11	15:28	29.15	-26.0	62	1.60
			Final	6/12	08:09	29.35	-3.0	62	

Clayton Environmental Consultants, Inc.

NO$_x$ DATA SHEET EPA METHOD 7

Project: Ford Motor Company - Coke Battery A Field Man: JBS/GEH/GMS

Sampling Station	Test Number	Flask Number & Volume		1975 Date	Time	Barometric Pressure	Flask Pressure (±)	Temperature (°F)	Final Volume (liters)
Scrubber Inlet	9	4 2073	Initial	6/11	15:38	29.15	-26.1	62	1.65
			Final	6/12	08:10	29.35	-2.5	62	
Scrubber Inlet	10	1 2064	Initial	7/18	12:20	29.63	-26.7	81	1.72
			Final	7/22	10:30	29.32	-0.9	75	
Scrubber Inlet	11	3 2060	Initial	7/18	12:27	29.63	-26.6	80	1.73
			Final	7/22	10:31	29.32	-0.5	75	
Scrubber Inlet	12	4 2073	Initial	7/18	12:39	29.63	-26.6	79	1.74
			Final	7/22	10:32	29.32	-0.6	75	
Scrubber Inlet	13	2 2067	Initial	7/18	12:50	29.63	-26.6	79	1.73
			Final	7/22	10:33	29.32	-0.7	75	
			Initial						
			Final						
			Initial						
			Final						
			Initial						
			Final						

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA

Company: Ford Motor Company - Rouge Plant - Dearborn, Michigan
Source Designation: Coke Battery A Scrubber Inlet
Field Person: GEH

Date	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
6-5	Activated Charcoal-1	12	12:26	12:27	1.0	29.51	17.5	23	68	1.22
	Activated Charcoal-2	12	12:40	12:41	1.0	29.51	14	23	68	1.23
	Activated Charcoal-3	12	12:50	12:51	1.0	29.51	22	23	68	1.21
	Activated Charcoal-4	12	14:52	14:53	1.0	29.51	15	23	76	1.22
	Activated Charcoal-5	12	15:22	15:23	1.0	29.51	15.5	23	77	1.22
	Activated Charcoal-6	12	16:14	16:15	1.0	29.51	14	23	78	1.22
	Activated Charcoal-7	12	16:25	16:26	1.0	29.51	15.5	23	78	1.22

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA

Company: Ford Motor Company - Rouge Plant - Dearborn, Michigan
Source Designation: Coke Battery A Scrubber Inlet
Field Person: GEH

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
6-6	Activated Charcoal-8	12	10:27	10:28	1.0	28.82	17.5	23	68	1.19
			10:49	10:50	1.0	28.82	17.5	23	68	1.19
6-6	Activated Charcoal-9	12	11:27	11:28	1.0	28.82	14.5	23	66	1.20
			11:41	11:42	1.0	28.82	16.5	23	66	1.20
			11:50	11:51	1.0	28.82	15.5	23	66	1.20
6-6	Activated Charcoal-10	12	13:38	13:39	1.0	28.82	17.5	23	68	1.19
			13:55	13:56	1.0	28.82	17.5	23	68	1.19
			14:10	14:11	1.0	28.82	18.5	23	70	1.19
6-6	Activated Charcoal-11	12	14:20	14:21	1.0	28.82	15.5	23	70	1.20
			14:30	14:31	1.0	28.82	15	23	70	1.20
			14:58	14:59	1.0	28.82	15	23	70	1.20

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA

Company: Ford Motor Company - Rouge Plant - Dearborn, Michigan
Source Designation: Coke Battery A Scrubber Inlet
Field Person: GEH

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
6-6	Activated Charcoal-12	12	15:10	15:11	1.0	28.82	15.5	23	70	1.20
			15:22	15:23	1.0	28.82	15	23	70	1.20
			15:42	15:43	1.0	28.82	15	23	70	1.20

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}} \right]$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA

Company: Ford Motor Company - Rouge Plant - Dearborn, Michigan
Source Designation: Coke Battery A Scrubber Outlet
Field Person: GMS

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
6-5	Activated Charcoal-1	2	12:26	12:27	1.0	28.85	8.9	23	74	1.00
	Activated Charcoal-2	2	12:40	12:41	1.0	28.85	9.8	23	75	0.99
	Activated Charcoal-3	2	12:50	12:51	1.0	28.85	11.6	23	76	0.99
	Activated Charcoal-4	2	14:52	14:53	1.0	28.85	10.4	23	81	0.98
	Activated Charcoal-5	2	15:22	15:23	1.0	28.85	8.8	23	81	0.99
	Activated Charcoal-6	2	16:14	16:15	1.0	28.85	5.8	23	81	1.00
	Activated Charcoal-7	2	16:25	16:26	1.0	28.85	5.9	23	80	1.00

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA

Company: Ford Motor Company - Rouge Plant - Dearborn, Michigan
Source Designation: Coke Battery A Scrubber Outlet
Field Person: GMS

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
6-6	Activated Charcoal-8	2	10:27	10:28	1.0	28.82	11.3	27	68	0.99
			10:49	10:50	1.0	28.82	10.1	27	68	1.00
6-6	Activated Charcoal-9	2	11:27	11:28	1.0	28.82	10.1	27	70	0.99
			11:41	11:42	1.0	28.82	10.1	14	70	0.99
			11:50	11:51	1.0	28.82	10.1	14	71	0.99
6-6	Activated Charcoal-10	2	13:38	13:39	1.0	28.82	6.8	14	71	1.00
			13:55	13:56	1.0	28.82	6.8	14	71	1.00
			14:10	14:11	1.0	28.82	6.8	14	72	1.00
6-6	Activated Charcoal-11	2	14:20	14:21	1.0	28.82	6.8	14	72	1.00
			14:30	14:31	1.0	28.82	6.8	14	73	1.00
			14:58	14:59	1.0	28.82	6.8	17	72	1.00

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA

Company: Ford Motor Company - Rouge Plant - Dearborn, Michigan
Source Designation: Coke Battery A Scrubber Outlet
Field Person: GMS

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
6-6	Activated Charcoal-12	2	15:10	15:11	1.0	28.82	10.9	17	72	0.99
			15:22	15:23	1.0	28.82	10.9	17	72	0.99
			15:42	15:43	1.0	28.82	10.9	17	72	0.99

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA

EPA METHOD 11

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Field Person: R.G. Keller

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
4-9	Preliminary H_2S-1	VOID								
4-9	Preliminary H_2S-2	10	15:18:12	15:18:55	0.72	29.59	22.0	23.0	42	0.74

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA
EPA METHOD 11

Company: Ford Motor Company - Rouge Plant - Dearborn, Michigan
Source Designation: Coke Battery A Scrubber Inlet
Field Person: R.G. Keller

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
4-10	Preliminary H_2S- 1	10	12:34:40	12:41:30	6.83	29.61	18.8	22.7	46	7.02
			12:45:25	12:49:30	4.08	29.61	18.8	22.7	46	4.19
			13:00:00	13:06:15	6.25	29.61	19.1	22.7	46	6.42
			13:19:00	13:29:20	10.33	29.61	18.3	22.7	49	10.59
			13:30:00	13:35:00	5.00	29.61	18.5	22.7	49	5.13
4-10	Preliminary H_2S- 2	2	12:34:40	12:41:30	6.83	29.61	19.1	22.7	46	7.08
			12:45:25	12:49:30	4.08	29.61	19.3	22.7	46	4.23
			13:00:00	13:06:15	6.25	29.61	19.8	22.7	46	6.46
			13:19:00	13:29:20	10.33	29.61	18.9	22.7	49	10.68
			13:30:00	13:35:00	5.00	29.61	19.0	22.7	49	5.17
4-10	Preliminary H_2S-3	10	13:50:35	13:52:40	2.08	29.61	18.8	22.7	48	2.13
			14:07:00	14:18:00	11.00	29.61	21.0	22.7	48	11.21
			14:14:30	14:17:00	2.50	29.61	21.3	22.7	49	2.54
			14:29:05	14:36:45	7.67	29.61	20.3	22.7	46	7.85
			14:40:00	14:49:00	9.00	29.61	20.9	22.7	46	9.20

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFICE SAMPLING DATA
EPA METHOD 11

Company: Ford Motor Company- Rouge Plant - Dearborn, Michigan
Source Designation: Coke Battery A Scrubber Outlet
Field Person: VWH/GMS

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
6-3	H_2S - 1	2	10:40	10:41	1.0	29.25	12.9	22.0	66	1.006
			10:47	10:48	1.0	29.25	13.2	22.5	66	1.006
			11:04	11:05	1.06	29.25	13.3	22.5	66	1.066
6-3	H_2S - 2	2	11:14	11:15	1.03	29.25	11.0	22.5	66	1.042
			11:24	11:25	1.0	29.25	10.3	22.5	68	1.011
			12:04	12:05	1.0	29.25	10.3	22.5	67	1.012
6-3	NH_3 - 1	10	10:40	10:41	1.0	29.2	5.4	22.5	66	1.009
			10:47	10:48	1.0	29.25	5.4	22.5	66	1.010
			11:04	11:05	1.06	29.2	5.5	22.5	66	1.069
6-3	NH_3 - 2	10	11:14	11:15	1.03	29.25	5.9	22.5	66	1.040
			11:24	11:25	1.0	29.25	6.6	22.5	67	1.006
			12:04	12:05	1.0	29.25	6.6	22.5	67	1.006

$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 1-16-75
Filter Heater Setting:
Test Number: Preliminary Ethanol-1
Probe Heater Setting:
Field Person: RJP, MRD
Nozzle Number: , **Dia. (in.):**
Filter Number:
Pitot Tube No. , **Corr. Factor:**
Barometric Pressure ("Hg): 29.96
Meter Box No. MAC-4, **Corr. Factor:** 0.994
Stack Static Pressure ("H_2O):
Meter Isokinetic Factor:
Stack Dimensions: 66" I.D.
Assumed Moisture (%):
Plume Appearance:
Condensate Volume (ml):
Ambient Temperature (°F):
Silica Gel Weight Gain (g):
Record all Data Every **Minutes**
Leak Rate **CFM at** **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		13:53			592.374		26	2.8			4.5
CL		14:03			601.1		26	2.8			4.5
CL		14:13			608.8		26	2.8			4.5
CL		14:23			617.556		26	2.8			4.5
AVERAGE (TOTAL)					(25.031)		26	2.8			4.5

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scurbber Inlet
Date: 1-16-75
Test Number: Preliminary Ethanol-2
Field Person: RJP, MRD
Filter Number:
Barometric Pressure ("Hg): 29.96
Stack Static Pressure ("H_2O):
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F):
Record all Data Every Minutes

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: , Dia. (in.):
Pitot Tube No. , Corr. Factor:
Meter Box No. MAC-4, Corr. Factor: 0.994
Meter Isokinetic Factor:
Assumed Moisture(%):
Condensate Volume(ml):
Silica Gel Weight Gain(g):
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		14:24			617.556		26	2.8			4.5
CL		14:34			625.9		26	2.8			4.5
CL		14:44			634.1		26	2.8			4.5
CL		14:54			624.410		26	2.8			4.5
AVERAGE (TOTAL)					(24.705)		26	2.8			4.5

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet

Date: 7/17/75	**Filter Heater Setting:** 250
Test Number: Ethanol-1	**Probe Heater Setting:** 50
Field Person: VWH/GEH	**Nozzle Number:** -- **,Dia.(in.):** 0.254
Filter Number: A-190-10	**Pitot Tube No.** 19 **,Corr.Factor:** 0.854
Barometric Pressure ("Hg): 29.59	**Meter Box No.** RAC-3 **,Corr.Factor:** 0.993
Stack Static Pressure ("H_2O): --	**Meter Isokinetic Factor:** 1796
Stack Dimensions: 90" I.D.	**Assumed Moisture(%):** 2.5
Plume Appearance: --	**Condensate Volume(ml):** --
Ambient Temperature(°F): --	**Silica Gel Weight Gain(g):** --
Record all Data Every 0.5 **Minutes**	**Leak Rate** 0.002 **CFM at** 15 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-4	0	08:24	0.68	120	12.078	79	79	3.23	220	80	
	30		0.68	120				3.23			3.0
	60	08:25	(0.68)	(125)	13.075	(79)	(79)	3.23	(225)	(80)	
N-4	0	08:40	0.68	120		79	80	3.23	255	80	
	30		0.68	120				3.23			3.0
	60	08:41	(0.68)	(125)	14.030	(80)	(80)	3.23	(260)	(80)	3.0
N-4	0	08:50	0.68	120		80	80	3.23	265	81	
	30		0.68	120							
	60	08:51	(0.68)	(125)	14.980	(81)	(81)	3.23	(265)	(82)	3.0
AVERAGE (TOTAL)				120	(2.882)	80	80	3.23	247	80	3.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 7/17/75 **Filter Heater Setting:** 250
Test Number: Ethanol-2 **Probe Heater Setting:** 50
Field Person: VWH/GEH **Nozzle Number:** -- **,Dia.(in.):** 0.254
Filter Number: A-128-71 **Pitot Tube No.** 19 **,Corr.Factor:** 0.854
Barometric Pressure ("Hg): 29.59 **Meter Box No.** RAC-3**,Corr.Factor:** 0.993
Stack Static Pressure ("H_2O): --- **Meter Isokinetic Factor:** 1796
Stack Dimensions: 90" I.D. **Assumed Moisture(%):** 2.5
Plume Appearance: -- **Condensate Volume(ml):** --
Ambient Temperature(°F): -- **Silica Gel Weight Gain(g):** --
Record all Data Every 0.5 **Minutes** **Leak Rate** 0.00 **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-4	0	14:41	0.68	120	23.028	90	90	3.30	255		3.0
	30		0.68	130							
	60	14:42	(0.68)	(130)	23.930	(88)	(88)	3.30	255	92	
N-4	0	14:54	0.71	120		87	88	3.44			
	30		0.71	130							3.55
	60	14:55	(0.71)	(130)	24.887	(88)	(88)	3.44	270	92	
N-4	0	15:14	0.70	125		88	88	3.40	275	90	
	30		0.70	130							
	60	15:15	(0.70)	(130)	25.825	(88)	(88)	3.40	250	90	3.5
AVERAGE (TOTAL)				126	(2.777)	88	89	3.38	261	91	3.4

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 6/11/75 **Filter Heater Setting:** 100

Test Number: Cyclohexane-1 **Probe Heater Setting:** 100

Field Person: RCM **Nozzle Number:** -- ,**Dia.(in.):** 0.189

Filter Number: A-147-29 **Pitot Tube No.** 18,**Corr.Factor:** 0.838

Barometric Pressure ("Hg): 29.2 **Meter Box No.** RAC-1,**Corr.Factor:** 0.974

Stack Static Pressure ("H_2O): -4.8 **Meter Isokinetic Factor:** 1720

Stack Dimensions: 66" I.D. **Assumed Moisture(%):** 1

Plume Appearance: -- **Condensate Volume(ml):** --

Ambient Temperature(°F): 68 **Silica Gel Weight Gain(g):** --

Record all Data Every 0.5 **Minutes** **Leak Rate** 0.03 **CFM at** 16 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	13:47	1.35	83	434.382	70	68	1.96	260	70	3.0
	30		1.6	250				1.78			
	60	13:48		130	435.112						
	Max		(1.75)	(285)							
S-7	0	14:08	1.35	84	435.114	73	70	1.95	260	70	3.3
	30		1.50	145				1.96			
	60	14:09		145	435.910						
	Max		(1.75)	(155)							
S-7	0	14:23	1.35	84	435.912	78	78	1.99	240	72	3.5
	30		1.5	170				1.91			
	60	14:24		125	436.672						
	Max		(1.55)	(175)							
AVERAGE (TOTAL)				135	(2.230)	74	72	1.92	253	71	3.3

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/12/75 **Filter Heater Setting:** 95
Test Number: Cyclohexane-2 **Probe Heater Setting:** 90
Field Person: RCM **Nozzle Number:** -- **,Dia.(in.):** 0.189
Filter Number: A-147-20 **Pitot Tube No.** 18 **,Corr.Factor:** 0.838
Barometric Pressure ("Hg): 29.13 **Meter Box No.** RAC-1 **,Corr.Factor:** 0.974
Stack Static Pressure ("H_2O): -4.2 **Meter Isokinetic Factor:** 1720
Stack Dimensions: 66" I.D. **Assumed Moisture(%):** 1
Plume Appearance: -- **Condensate Volume(ml):** --
Ambient Temperature(°F): 66 **Silica Gel Weight Gain(g):** --
Record all Data Every 0.5 **Minutes** **Leak Rate** 0.005 **CFM at** 16 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	10:37	1.30	80	439.173	80	76	1.93	210	76	3.0
	30		1.50	195				1.82			
	60	10:38		120							
	Max		(1.55)	(205)	439.939						
S-7	0	11:01	1.30	90	439.941	82	80	1.91	260	78	3.0
	30		1.50	200				1.88			
	60	11:02		160							
	Max		(1.55)	(275)	440.692						
S-7	0	11:14	1.25	91	440.693	82	80	1.83	240	80	3.0
	30		1.40	170				1.79			
	60	11:15		130	441.403						
	Max		(1.50)	(175)							
AVERAGE (TOTAL)				137	(2.172)	81	79	1.86	237	78	3.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 6/12/75
Filter Heater Setting: 90
Test Number: Cyclohexane-3
Probe Heater Setting: 90
Field Person: RCM
Nozzle Number: -- **,Dia.(in.):** 0.189
Filter Number: A-147-17
Pitot Tube No. 18 **,Corr.Factor:** 0.838
Barometric Pressure ("Hg): 29.15
Meter Box No. RAC-1 **,Corr.Factor:** 0.974
Stack Static Pressure ("H_2O): -4.0
Meter Isokinetic Factor: 1720
Stack Dimensions: 66" I.D.
Assumed Moisture(%): 1
Plume Appearance: --
Condensate Volume(ml): --
Ambient Temperature(°F): 72
Silica Gel Weight Gain(g): --
Record all Data Every 0.5 **Minutes**
Leak Rate 0.00 **CFM at** 16 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-7	0	15:10	1.25	87	442.249	80	80	1.84	240	78	2.5
	30		1.45	165				1.82			
	60	15:11		125	442.959						
	Max		(1.5)	(200)							
S-7	0	15:21	1.3	87	442.960	82	80	1.92	260	80	2.5
	30		1.55	175				1.96			
	60	15:22		125	443.672						
	Max		(1.60)	(195)							
S-7	0	16:23	1.30	84	443.697	80	80	1.92	260	78	2.5
	30		1.70	435				1.53			
	60	16:24		360	444.390						
	Max		(1.75)	(485)							
AVERAGE (TOTAL)				183	(2.085)	81	80	1.83	253	79	2.5

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 6/11/75

Test Number: Cyclohexane-1

Field Person: RJG/GMS

Filter Number: A-147-28

Barometric Pressure ("Hg): 29.2

Stack Static Pressure ("H_2O): -0.15

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every 0.5 Minutes

Filter Heater Setting: 250

Probe Heater Setting: 80

Nozzle Number: --, Dia.(in.): 0.256

Pitot Tube No. 19, Corr.Factor: 0.854

Meter Box No. RAC-4, Corr.Factor: 0.991

Meter Isokinetic Factor: 1685

Assumed Moisture(%): 2.7

Condensate Volume(ml): --

Silica Gel Weight Gain(g): --

Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-6	0	13:47	0.60	116	604.698	68	69	3.03	275	70	2.0
	30		0.60	120	605.2	68	69	3.00	275	70	2.0
	60	13:48		126	605.620						
N-6	0	14:08	0.63	116	605.620	68	68	2.90	260	78	2.0
	30		0.63	120		68	68	2.85	260	78	2.0
	60	14:09		121	606.546						
N-6	0	14:23	0.63	120	606.546	68	68	2.88	280	80	2.0
	30		0.63	120	607.14	68	68	2.88	280	80	2.0
	60	14:24			607.478						
AVERAGE (TOTAL)				120	(2.755)	68	68	2.92	272	73	2.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/12/75
Filter Heater Setting: 250
Test Number: Cyclohexane-2
Probe Heater Setting: 80
Field Person: RJG/GMS
Nozzle Number: -- ,Dia.(in.): 0.256
Filter Number: A-147-39
Pitot Tube No. 19 ,Corr.Factor: 0.854
Barometric Pressure ("Hg): 29.13
Meter Box No. RAC-4 ,Corr.Factor: 0.991
Stack Static Pressure ("H_2O): -0.15
Meter Isokinetic Factor: 1685
Stack Dimensions: 90" I.D.
Assumed Moisture(%): 2.7
Plume Appearance: --
Condensate Volume(ml): --
Ambient Temperature(°F): --
Silica Gel Weight Gain(g): --
Record all Data Every 0.5 Minutes
Leak Rate ______ CFM at ______"Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-6	0	10:37	0.60	120	607.930	77	78	2.76	255	82	1.0
	30		0.60	125		77	78	2.74	255	82	1.0
	60	10:38		127	608.970						
N-6	0	11:01	0.60	120	609.099	77	78	2.76	265	83	1.0
	30		0.60	125		77	78	2.74	265	83	1.0
	60	11:02		129	609.905						
N-6	0	11:14	0.60	121	609.917	77	78	2.76	285	87	1.0
	30		0.60	125		77	78	2.74	285	87	1.0
	60	11:15		126	610.808						
AVERAGE (TOTAL)				124	(2.712)	77	78	2.75	268	84	1.0

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 6/12/75
Test Number: Cyclohexane-3
Field Person: RJG/GMS
Filter Number: A-147-22
Barometric Pressure ("Hg): 29.15
Stack Static Pressure ("H_2O): -0.15
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every 0.5 Minutes

Filter Heater Setting: 250
Probe Heater Setting: 80
Nozzle Number: -- ,Dia.(in.): 0.256
Pitot Tube No. 19 ,Corr.Factor: 0.854
Meter Box No. RAC-4 ,Corr.Factor: 0.991
Meter Isokinetic Factor: 1685
Assumed Moisture(%): 2.7
Condensate Volume(ml): --
Silica Gel Weight Gain(g): ---
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-6	0	15:10	0.60	120	612.189	81	82	2.76	240	80	1.0
	30		0.60	125		81	82	2.74	240	80	1.0
	60	15:11			613.067						
N-6	0	15:21	0.60	120	613.079	82	82	2.76	230	80	1.0
	30		0.60	125		82	82	2.74	230	80	1.0
	60	15:22			613.932						
N-6	0	16:23	0.60	120	614.020	82	82	2.76	230	82	1.0
	30		0.60	125		82	82	2.74	230	82	1.0
	60	16:24			614.848						
AVERAGE (TOTAL)				122	(2.536)	82	82	2.75	233	81	1.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 9/4/75

Filter Heater Setting:

Test Number: Andersen Impactor Sample-1A

Probe Heater Setting:

Field Person: RGK

Nozzle Number: -- , Dia. (in.): 3/16

Filter Number:

Pitot Tube No. 11 , Corr. Factor: 0.824

Barometric Pressure ("Hg): 29.5

Meter Box No. RAC-3 , Corr. Factor: 0.993

Stack Static Pressure ("H_2O): -4.5

Meter Isokinetic Factor: 1745

Stack Dimensions: 66" I.D.

Assumed Moisture (%):

Plume Appearance:

Condensate Volume (ml):

Ambient Temperature (°F):

Silica Gel Weight Gain (g):

Record all Data Every Push

Leak Rate 0.015 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	09:00	1.05	80	924.835	67	67	1.32			
	60		1.05	100		68	68	1.32			
	0	09:40	1.05	80		68	68	1.3			
	60		1.05	100		70	70	1.3			
	0	09:51	1.05	80		71	71	1.3			
	60		1.05	100	926.698	71	71	1.3			
AVERAGE (TOTAL)				90	(1.85)	69	69	1.3			

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 9/4/75

Filter Heater Setting:

Test Number: Andersen Impactor Sample-1B

Probe Heater Setting:

Field Person: RGK

Nozzle Number: --, Dia. (in.): 3/16

Filter Number:

Pitot Tube No. 11, Corr. Factor: 0.824

Barometric Pressure ("Hg): 29.5

Meter Box No. RAC-2, Corr. Factor: 0.996

Stack Static Pressure ("H_2O):

Meter Isokinetic Factor: 1701

Stack Dimensions: 66" I.D.

Assumed Moisture (%):

Plume Appearance:

Condensate Volume (ml):

Ambient Temperature (°F):

Silica Gel Weight Gain (g):

Record all Data Every Push

Leak Rate 0.010 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-4	0	14:25	1.05	85	150.585	73	73	1.2			
	70		1.05	95		73	73	1.2			
	0	15:02	1.05	85		73	73	1.2			
	70		1.05	95		73	73	1.2			
	0	15:13	1.05	82		73	73	1.2			
	70		1.05	95	152.754	73	73	1.2			
AVERAGE (TOTAL)				90	(2.16)	73	73	1.2			

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/5/75
Test Number: Andersen Impactor Sample-1C
Field Person: KDS
Filter Number:
Barometric Pressure ("Hg): 29.52
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F):
Record all Data Every Push

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: , **Dia.(in.):** 3/16
Pitot Tube No. 11 , **Corr.Factor:** 0.824
Meter Box No. RAC-2 , **Corr.Factor:** 0.996
Meter Isokinetic Factor: 1701
Assumed Moisture(%):
Condensate Volume(ml):
Silica Gel Weight Gain(g):
Leak Rate CFM at "Hg

Traverse Point No.	Time: Sampling (sec)	Time: Clock	Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter: Volume (ft^3)	Dry Gas Meter: Temp (°F) Inlet	Dry Gas Meter: Temp (°F) Outlet	Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
T-4	0	09:04	1.05	80	153.118	70	70	1.2			
	70		1.05	95	153.813	70	70	1.2			
	0	09:16	1.05	80	153.813	70	70	1.2			
	70		1.05	105	154.503	71	71	1.2			
	0	09:30	1.05	82	154.503	71	71	1.2			
	70		1.05	99	155.206	72	72	1.2			
AVERAGE (TOTAL)				90	(2.08)	71	71	1.2			

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/5/75
Filter Heater Setting:
Test Number: Andersen Impactor Sample-2A
Probe Heater Setting:
Field Person: KDS
Nozzle Number: ____, **Dia. (in.):** 3/16
Filter Number:
Pitot Tube No. 11, **Corr. Factor:** 0.824
Barometric Pressure ("Hg): 29.32
Meter Box No. RAC-2, **Corr. Factor:** 0.996
Stack Static Pressure ("H_2O): -4.5
Meter Isokinetic Factor:
Stack Dimensions: 66" I.D.
Assumed Moisture(%):
Plume Appearance:
Condensate Volume(ml):
Ambient Temperature(°F):
Silica Gel Weight Gain(g):
Record all Data Every Push
Leak Rate 0.019 **CFM at** 15 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
CL	0	12:51	1.1	82	155.792	75	75	1.4			
	72		1.1	105	156.554	75	75	1.4			
	0	13:19	1.1	78	156.554	70	70	1.4			
	72		1.1	94	157.266	70	71	1.4			
	0	13:31	1.1	75	157.266	68	70	1.4			
	72		1.1	94	158.150	68	70	1.4			
AVERAGE (TOTAL)				88	(2.35)	71	72	1.4			

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/8/75
Filter Heater Setting:
Test Number: Andersen Impactor Sample-2B
Probe Heater Setting:
Field Person: KDS
Nozzle Number: , Dia. (in.): 3/16
Filter Number:
Pitot Tube No. 11, Corr. Factor: 0.824
Barometric Pressure ("Hg): 29.53
Meter Box No. RAC-Z, Corr. Factor: 0.996
Stack Static Pressure ("H_2O):
Meter Isokinetic Factor: 1701
Stack Dimensions: 66" I.D.
Assumed Moisture (%):
Plume Appearance:
Condensate Volume (ml):
Ambient Temperature (°F):
Silica Gel Weight Gain (g):
Record all Data Every Push
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
C_L	0	10:36	1.1	64	158.145	64	64	1.4			
	72		1.1	91	158.925	64	65	1.4			
	0	11:02	1.1	66	158.925	64	64	1.4			
	72		1.1	85	159.693	64	65	1.4			
	0	11:51	1.1	72	159.693	64	65	1.4			
	72		1.1	89	160.339	64	65	1.4			
AVERAGE (TOTAL)				78	(2.19)	64	65	1.4			

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 9/8/75

Test Number: Andersen Impactor Sample-2C

Field Person: KDS

Filter Number:

Barometric Pressure ("Hg): 29.53

Stack Static Pressure ("H_2O): -4.5

Stack Dimensions: 66" I.D.

Plume Appearance:

Ambient Temperature(°F): 66

Record all Data Every Push

Filter Heater Setting:

Probe Heater Setting:

Nozzle Number: ____, Dia.(in.): 3/16

Pitot Tube No. 11, Corr.Factor: 0.824

Meter Box No. RAC-2, Corr.Factor: 0.996

Meter Isokinetic Factor: 1701

Assumed Moisture(%): 1

Condensate Volume(ml):

Silica Gel Weight Gain(g):

Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time: Sampling (sec)	Time: Clock	Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter: Volume (ft^3)	Dry Gas Meter: Temp (°F) Inlet	Dry Gas Meter: Temp (°F) Outlet	Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
CL	0	13:37	1.1	79	160.500	65	66	1.4			
	72		1.1	89	161.275	65	66	1.4			
	0	14:03	1.1	79	161.275	66	66	1.4			
	72		1.1	85	162.041	66	67	1.4			
	0	14:31	1.1	75	162.041	66	67	1.4			
	72		1.1	95	162.799	66	67	1.4			
AVERAGE (TOTAL)				84	(2.29)	66	66	1.4			

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/9-10/75 **Filter Heater Setting:**
Test Number: Andersen Impactor Sample-3A **Probe Heater Setting:**
Field Person: KDS **Nozzle Number:** , **Dia.(in.):** 3/16
Filter Number: **Pitot Tube No.** 11, **Corr.Factor:** 0.824
Barometric Pressure ("Hg): 29.78 **Meter Box No.** RAC-2, **Corr.Factor:** 0.996
Stack Static Pressure ("H_2O): -4.5 **Meter Isokinetic Factor:** 1701
Stack Dimensions: 66" I.D. **Assumed Moisture(%):** 1
Plume Appearance: **Condensate Volume(ml):**
Ambient Temperature(°F): **Silica Gel Weight Gain(g):**
Record all Data Every Push **Leak Rate** CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
℄	0	09:59	1.1	70	162.875	56	57	1.4			
	72		1.1	90	163.615	56	57	1.4			
9/10	0	08:22	1.1	62	163.616	56	56	1.4			
	72		1.1	78	164.327	56	57	1.4			
	0	08:35	1.1	62	164.220	56	58	1.4			
	72		1.1	80	164.886	58	58	1.4			
AVERAGE (TOTAL)				74	(2.11)	56	57	1.4			

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/10/75
Filter Heater Setting:
Test Number: Andersen Impactor Sample-3B
Probe Heater Setting:
Field Person: KDS
Nozzle Number: , **Dia. (in.):** 3/16
Filter Number:
Pitot Tube No. 11 , **Corr. Factor:** 0.824
Barometric Pressure ("Hg): 29.61
Meter Box No. RAC-2 , **Corr. Factor:** 0.996
Stack Static Pressure ("H_2O):
Meter Isokinetic Factor: 1701
Stack Dimensions: 66" I.D.
Assumed Moisture (%):
Plume Appearance:
Condensate Volume (ml):
Ambient Temperature (°F):
Silica Gel Weight Gain (g):
Record all Data Every Push
Leak Rate CFM at "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
℄	0	10:05	1.1	65	164.975	65	65	1.4			
	72		1.1	82	165.739	65	65	1.4			
	0	10:17	1.1	68	165.739	66	66	1.4			
	72		1.1	82	166.489	67	66	1.4			
	0	10:34	1.1	68	166.489	66	66	1.4			
	72		1.1	89	167.242	66	66	1.4			
AVERAGE (TOTAL)				76	(2.26)	66	66	1.4			

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/10/75
Test Number: Andersen Impactor Sample-3C
Field Person: KDS
Filter Number:
Barometric Pressure ("Hg): 29.61
Stack Static Pressure ("H_2O):
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F):
Record all Data Every Push

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____, Dia.(in.): 3/16
Pitot Tube No. 11, Corr. Factor: 0.824
Meter Box No. RAC-2, Corr. Factor: 0.996
Meter Isokinetic Factor: 1701
Assumed Moisture(%):
Condensate Volume(ml):
Silica Gel Weight Gain(g):
Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
℄	0	11:55	1.1	72	167.323	66	67	1.4			
	72		1.1	104	168.062	67	67	1.4			
	0	12:12	1.1	80	168.062	68	68	1.4			
	72		1.1	84	168.817	69	68	1.4			
	0	12:25	1.1	76	168.817	68	68	1.4			
	72		1.1	104	169.569	70	69	1.4			
AVERAGE (TOTAL)				87	(2.24)	68	68	1.4			

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/10/75
Test Number: Andersen Impactor Sample-4A
Field Person: KDS
Filter Number:
Barometric Pressure ("Hg): 29.50
Stack Static Pressure ("H_2O):
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F): 70
Record all Data Every Push

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____, **Dia.(in.):** 3/16
Pitot Tube No. 11, **Corr.Factor:** 0.824
Meter Box No. RAC-2, **Corr.Factor:** 0.996
Meter Isokinetic Factor: 1701
Assumed Moisture(%): 1
Condensate Volume(ml):
Silica Gel Weight Gain(g):
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
℄	0	14:06	1.1	79	169.652	70	70	1.4			
	72		1.1	115	170.378	70	70	1.4			
	0	14:14	1.1	85	170.378	70	70	1.4			
	72		1.1	105	171.130	70	70	1.4			
	0	14:27	1.1	82	171.130	71	71	1.4			
	72		1.1	98	171.857	72	71	1.4			
AVERAGE (TOTAL)				94	(2.20)	70	70	1.4			

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/11/75
Filter Heater Setting:
Test Number: Andersen Impactor Sample-4B
Probe Heater Setting:
Field Person: RGK
Nozzle Number: , Dia. (in.): 3/16
Filter Number:
Pitot Tube No. 11, Corr. Factor: 0.824
Barometric Pressure ("Hg): 29.20
Meter Box No. RAC-2, Corr. Factor: 0.996
Stack Static Pressure ("H_2O): -4.5
Meter Isokinetic Factor:
Stack Dimensions: 66" I.D.
Assumed Moisture (%):
Plume Appearance:
Condensate Volume (ml):
Ambient Temperature (°F):
Silica Gel Weight Gain (g):
Record all Data Every Push
Leak Rate 0.01 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
C_L	0	08:41	1.2	70	171.866	70	70	1.4			
	36		1.2	190				1.4			
	72		1.2	88	172.677	72	71	1.4			
	0	08:51	1.2	75	172.677	72	71	1.4			
	36		1.2	195				1.4			
	72		1.2	85	173.468	73	72	1.4			
	0	09:09	1.2	70	173.468	72	72	1.4			
	36		1.2	180				1.4			
	72		1.2	95	174.269	74	73	1.4			
AVERAGE (TOTAL)				116	(2.39)	72	72	1.4			

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/11/75
Filter Heater Setting:
Test Number: Andersen Impactor Sample-4C
Probe Heater Setting:
Field Person: RGK
Nozzle Number: , **Dia. (in.):** 3/16
Filter Number:
Pitot Tube No. 11 , **Corr. Factor:** 0.824
Barometric Pressure ("Hg): 29.10
Meter Box No. RAC-2, **Corr. Factor:** 0.996
Stack Static Pressure ("H_2O): -4.5
Meter Isokinetic Factor:
Stack Dimensions: 66" I.D.
Assumed Moisture (%):
Plume Appearance:
Condensate Volume (ml):
Ambient Temperature (°F):
Silica Gel Weight Gain (g):
Record all Data Every Push
Leak Rate CFM at "Hg

Traverse Point No.	Time: Sampling (sec)	Time: Clock	Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter: Volume (ft^3)	Dry Gas Meter: Temp (°F) Inlet	Dry Gas Meter: Temp (°F) Outlet	Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
℄	0	10:41	1.2	75	174.352	72	72	1.4			
	36		1.2	300				1.4			
	72		1.2	85	175.167	72	72	1.4			
	0	10:52	1.2	75	175.167	72	72	1.4			
	36		1.2	200				1.4			
	72		1.2	85	175.938	74	73	1.4			
	0	11:18	1.2	75	175.938	73	73	1.4			
	36		1.2	500				1.4			
	72		1.2	120	176.683	74	73	1.4			
AVERAGE (TOTAL)				168	(2.32)	73	72	1.4			

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 9/11/75

Filter Heater Setting:

Test Number: Andersen Impactor Sample-5A

Probe Heater Setting:

Field Person: RGK

Nozzle Number: , Dia. (in.): 3/16

Filter Number:

Pitot Tube No. 11, Corr. Factor: 0.824

Barometric Pressure ("Hg): 29.10

Meter Box No. RAC-2, Corr. Factor: 0.996

Stack Static Pressure ("H_2O): -4.5

Meter Isokinetic Factor:

Stack Dimensions: 66" I.D.

Assumed Moisture (%):

Plume Appearance:

Condensate Volume (ml):

Ambient Temperature (°F):

Silica Gel Weight Gain (g):

Record all Data Every Push

Leak Rate 0.01 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-10	0	14:06	1.2	75	176.852	74	74	1.4			
	36		1.4	185				1.4			
	72		1.2	100	177.703	74	74	1.4			
	0	14:18	1.2	78	177.703			1.4			
	36		1.4	160				1.4			
	72		1.2	95	178.502	74	74	1.4			
	0	14:25	1.2	75	178.502			1.4			
	36		1.4	175				1.4			
	72		1.2	90	179.298	74	74	1.4			
AVERAGE (TOTAL)				115	(2.44)	74	74	1.4			

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/12/75
Filter Heater Setting:
Test Number: Andersen Impactor Sample-6A
Probe Heater Setting:
Field Person: KDS
Nozzle Number: ____, Dia. (in.): 3/16
Filter Number:
Pitot Tube No. 11, Corr. Factor: 0.824
Barometric Pressure ("Hg): 29.28
Meter Box No. RAC-2, Corr. Factor: 0.996
Stack Static Pressure ("H_2O): -4.5
Meter Isokinetic Factor:
Stack Dimensions: 66" I.D.
Assumed Moisture (%):
Plume Appearance:
Condensate Volume (ml):
Ambient Temperature (°F): 60
Silica Gel Weight Gain (g):
Record all Data Every Push
Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time: Sampling (sec)	Time: Clock	Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter: Volume (ft^3)	Dry Gas Meter: Temp (°F) Inlet	Dry Gas Meter: Temp (°F) Outlet	Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
T-10	0	08:28	1.2	58	179.381	55	55	1.5			
	36		1.4	160		55	55	1.5			
	72		1.2	74	180.140	56	56	1.5			
	0	09:56	1.2	60	180.140	56	56	1.5			
	36		1.4	155		56	56	1.5			
	72		1.2	75	180.925	56	56	1.5			
	0	10:09	1.2	60	180.925	57	57	1.5			
	36		1.4	110		58	58	1.5			
	72		1.2	65	181.675	58	58	1.5			
AVERAGE (TOTAL)				91	(2.28)	56	56	1.5			

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/12/75 and 9/15/75
Test Number: Andersen Impactor Sample-6B
Field Person: KDS
Filter Number:
Barometric Pressure ("Hg): Avg. 29.49
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature(°F): 65
Record all Data Every Push

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____, Dia.(in.): 3/16
Pitot Tube No. 11, Corr. Factor: 0.824
Meter Box No. RAC-2, Corr. Factor: 0.996
Meter Isokinetic Factor: 1701
Assumed Moisture(%): 1
Condensate Volume(ml):
Silica Gel Weight Gain(g):
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-10	0	12:25	1.2	65	181.909	59	59	1.5			
	36		1.4	160		59	59	1.5			
	72		1.2	82	182.675	59	59	1.5			
	0	12:38	1.2	66	182.675	59	59	1.5			
	36		1.4	125		60	60	1.5			
	72		1.2	75	183.462	60	60	1.5			
9/15	0	08:25	1.2	70	183.462	53	53	1.5			
	36		1.4	160		53	53	1.5			
	72		1.2	95	184.253	53	53	1.5			
AVERAGE (TOTAL)				100	(2.33)	57	57	1.5			

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 9/15/75

Filter Heater Setting:

Test Number: Andersen Impactor Sample-6C

Probe Heater Setting:

Field Person: KDS

Nozzle Number: ____, **Dia. (in.):** 3/16

Filter Number:

Pitot Tube No. 11, **Corr. Factor:** 0.824

Barometric Pressure ("Hg): 29.70

Meter Box No. RAC-2, **Corr. Factor:** 0.996

Stack Static Pressure ("H_2O): -4.5

Meter Isokinetic Factor: 1701

Stack Dimensions: 66" I.D.

Assumed Moisture (%):

Plume Appearance:

Condensate Volume (ml):

Ambient Temperature (°F): 65

Silica Gel Weight Gain (g):

Record all Data Every Push

Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-10	0	09:55	1.2	60	184.349	58	58	1.5			
	36		1.4	305		58	58	1.5			
	72		1.2	107	185.112	59	59	1.5			
	0	10:02	1.2	74	185.112	58	58	1.5			
	36		1.4	220		59	58	1.5			
	72		1.2	95	185.865	60	59	1.5			
	0	10:10	1.2	76	185.865	59	59	1.5			
	36		1.4	165		60	59	1.5			
	72		1.2	89	186.659	61	59	1.5			
AVERAGE (TOTAL)				132	(2.30)	59	59	1.5			

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 9/15/75

Test Number: Andersen Impactor Sample-7A

Field Person: KDS

Filter Number:

Barometric Pressure ("Hg): 29.70

Stack Static Pressure ("H_2O): -4.5

Stack Dimensions: 66" I.D.

Plume Appearance:

Ambient Temperature(°F): 68

Record all Data Every Push

Filter Heater Setting:

Probe Heater Setting:

Nozzle Number: ____, Dia. (in.): 3/16

Pitot Tube No. 11, Corr. Factor: 0.824

Meter Box No. RAC-2, Corr. Factor: 0.996

Meter Isokinetic Factor: 1701

Assumed Moisture (%): 1

Condensate Volume (ml):

Silica Gel Weight Gain (g):

Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
T-10	0	12:23	1.2	68	186.743	64	65	1.5			
	36		1.4	250		65	65	1.5			
	72		1.2	84	187.539	65	65	1.5			
	0	12:59	1.2	68	187.539	65	65	1.5			
	36		1.4	335		66	66	1.5			
	72		1.2	105	188.322	66	66	1.5			
	0	13:22	1.2	72	188.322	66	66	1.5			
	36		1.4	72		66	66	1.5			
	72		1.2	90	188.988	66	66	1.5			
AVERAGE (TOTAL)				127	(2.24)	65	66	1.5			

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Date: 9/15/75
Test Number: Andersen Impactor Sample-7B
Field Person: KDS
Filter Number:
Barometric Pressure ("Hg): 29.70
Stack Static Pressure ("H_2O): -4.5
Stack Dimensions: 66" I.D.
Plume Appearance:
Ambient Temperature (°F): 70
Record all Data Every Push

Filter Heater Setting:
Probe Heater Setting:
Nozzle Number: ____, Dia. (in.): 3/16
Pitot Tube No. 11, Corr. Factor: 0.824
Meter Box No. RAC-2, Corr. Factor: 0.996
Meter Isokinetic Factor: 1701
Assumed Moisture (%): 1
Condensate Volume (ml):
Silica Gel Weight Gain (g):
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
T-10	0	14:25	1.2	72	189.015	68	68	1.5			
	36		1.4	120		68	68	1.5			
	72		1.2	95	189.861	68	68	1.5			
	0	14:50	1.2	75	189.861	67	67	1.5			
	36		1.4	230		67	67	1.5			
	72		1.2	92	190.652	67	67	1.5			
	0	14:56	1.2	75	190.652	67	67	1.5			
	36		1.4	180		68	68	1.5			
	72		1.2	96	191.426	68	68	1.5			
AVERAGE (TOTAL)				115	(2.40)	68	68	1.5			

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 9/16/75 **Filter Heater Setting:**

Test Number: Andersen Impactor Sample-7C **Probe Heater Setting:**

Field Person: KDS **Nozzle Number:** ____, **Dia. (in.):** 3/16

Filter Number: **Pitot Tube No.** 11, **Corr. Factor:** 0.824

Barometric Pressure ("Hg): 29.51 **Meter box No.** RAC-Z, **Corr. Factor:** 0.996

Stack Static Pressure ("H_2O): -4.5 **Meter Isokinetic Factor:** 1701

Stack Dimensions: 66" I.D. **Assumed Moisture (%):** 1

Plume Appearance: **Condensate Volume (ml):**

Ambient Temperature (°F): 60 **Silica Gel Weight Gain (g):**

Record all Data Every Push **Leak Rate** ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft³)	Temp (°F)					
						Inlet	Outlet				
T-10	0	08:34	1.2	61	191.509	57	57	1.5			
	36		1.4	130		57	57	1.5			
	72		1.2	66	192.317	57	57	1.5			
	0	08:48	1.2	64	192.317	57	57	1.5			
	36		1.4	145		58	58	1.5			
	72		1.2	76	193.106	58	58	1.5			
	0	08:55	1.2	64	193.106	58	58	1.5			
	36		1.4	245		58	58	1.5			
	72		1.2	77	193.878	59	59	1.5			
AVERAGE (TOTAL)				103	(2.36)	58	58	1.5			

SAMPLING TRAIN DATA

(Page 1 of 2)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 9/4/75

Test Number: Andersen Impactor Sample-1

Field Person: GMS/GEH

Filter Number: A-245-04

Barometric Pressure ("Hg): 29.5

Stack Static Pressure ("H_2O): -0.31

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every Push

Filter Heater Setting: --

Probe Heater Setting: --

Nozzle Number: --, **Dia.(in.):** 1/4

Pitot Tube No. 19, **Corr.Factor:** 0.854

Meter Box No. RAC-4, **Corr.Factor:** 1.009

Meter Isokinetic Factor: 1683

Assumed Moisture(%): 1

Condensate Volume(ml): --

Silica Gel Weight Gain(g): ____

Leak Rate ____ **CFM at** ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-1	0	09:00	0.11	120	91.106	70	70	0.46			2.0
	30		0.11	125	91.5	72	72	0.46			2.0
	60		0.11	130	91.927	72	72	0.46			2.0
S-1	0	09:40	0.11	120	91.927	70	70	0.46			2.0
	30		0.11	125	92.1	72	72	0.46			2.0
	60		0.11	125	92.315	72	72	0.46			2.0
S-1	0	09:51	0.11	120	92.315	70	70	0.46			2.0
	30		0.11	125	92.5	72	72	0.46			2.0
	60		0.11	125	92.685	72	72	0.46			2.0
S-1	0	14:25	0.11	120	92.685	70	70	0.46			2.0
	35		0.11	120	92.8	72	72	0.46			2.0
	70		0.11	125	93.146	72	72	0.46			2.0
S-1	0	15:02	0.11	120	93.146	70	70	0.46			2.0
	35		0.11	125	93.4	72	74	0.46			2.0
	70		0.11	125	93.599	73	75	0.46			2.0
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 2)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 9/4-5/75

Test Number: Andersen Impactor Sample-1

Field Person: GMS/GEH

Filter Number: A-245-04

Barometric Pressure ("Hg): 29.5

Stack Static Pressure ("H_2O): -0.31

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature (°F): --

Record all Data Every Push

Filter Heater Setting: --

Probe Heater Setting: --

Nozzle Number: -- **, Dia. (in.):** 1/4

Pitot Tube No. 19 **, Corr. Factor:** 0.854

Meter Box No. RAC-4 **, Corr. Factor:** 1.009

Meter Isokinetic Factor: 1683

Assumed Moisture (%): 1

Condensate Volume (ml): --

Silica Gel Weight Gain (g): --

Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
S-1	0	15:13	0.11	120	93.599	73	75	0.46			2.0
	35		0.11	125	93.8	74	76	0.46			2.0
	70		0.11	125	94.043	74	76	0.46			2.0
9/5 S-1	0	09:04	0.11	125	94.124	70	70	0.46			2.0
	35		0.11	125	94.3	70	70	0.46			2.0
	70		0.11	125	94.559	72	72	0.46			2.0
S-1	0	09:16	0.11	125	94.559	70	70	0.46			2.0
	35		0.11	125	94.8	71	71	0.46			2.0
	70		0.11	125	95.027	71	71	0.46			2.0
S-1	0	09:30	0.11	120	95.027	70	70	0.46			2.0
	35		0.11	120	95.3	71	71	0.46			2.0
	70		0.11	120	95.478	71	71	0.46			2.0
AVERAGE (TOTAL)				123	(4.33)	71	72	0.46			2.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 2)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 9/5-6/75
Test Number: Andersen Impactor Sample-2
Field Person: GMS/GEH
Filter Number: A-245-23
Barometric Pressure ("Hg): 29.52
Stack Static Pressure ("H_2O): -0.31
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every Push

Filter Heater Setting: --
Probe Heater Setting: --
Nozzle Number: --, **Dia.(in.):** 1/4
Pitot Tube No. 19, **Corr. Factor:** 0.854
Meter Box No. RAC-4, **Corr. Factor:** 1.009
Meter Isokinetic Factor: 1683
Assumed Moisture(%): 1
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-1	0	12:51	0.39	120	95.745	70	70	1.6			3.0
	36		0.39	125	96.1	71	71	1.6			3.0
	72		0.39	125	96.514	71	71	1.6			3.0
W-1	0	13:19	0.39	120	96.514	70	70	1.6			3.0
	36		0.39	120	96.8	70	70	1.6			3.0
	72		0.39	120	97.312	71	71	1.6			3.0
W-1	0	13:31	0.39	120	96.312	70	70	1.6			3.1
	36		0.39	125	97.7	71	71	1.6			3.1
	72		0.39	125	98.139	71	71	1.6			3.1
9/6 W-1	0	10:36	0.39	125	98.225	65	65	1.6			4.0
	36		0.39	135		65	65	1.6			
	72		0.39	130	99.047	65	65	1.6			4.0
W-1	0	11:02	0.39	120	99.048	65	65	1.6			3.5
	36		0.39	125							
	72		0.39	130	99.976	65	65	1.6			3.5
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 2)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 9/6/75 **Filter Heater Setting:** --

Test Number: Andersen Impactor Sample-2 **Probe Heater Setting:** --

Field Person: RGK **Nozzle Number:** -- **,Dia.(in.):** 1/4

Filter Number: A-245-23 **Pitot Tube No.** 19 **,Corr.Factor:** 0.854

Barometric Pressure ("Hg): 29.52 **Meter Box No.** RAC-4 **,Corr.Factor:** 1.009

Stack Static Pressure ("H_2O): -0.31 **Meter Isokinetic Factor:** 1683

Stack Dimensions: 90" I.D. **Assumed Moisture(%):** 1

Plume Appearance: -- **Condensate Volume(ml):** --

Ambient Temperature(°F): -- **Silica Gel Weight Gain(g):** --

Record all Data Every Push **Leak Rate** ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
W-1	0	11:51	0.39	128	100.012	65	65	1.6			
	30		0.39		100.334			1.6			
	72		0.39					1.6			
W-1	0	13:37	0.39	120	100.467	66	66	1.6			
	36		0.39	125				1.6			
	72		0.39	122	101.292	66	66	1.6			
W-1	0	14:03	0.39	120	101.292	66	66	1.6			
	36		0.39	122		67	68	1.6			
	72		0.39	118	102.148	67	68	1.6			
W-1	0	14:31	0.39	116		66	68	1.6			
	36		0.39	120		66	68	1.6			
	72		0.39	120	102.980	66	69	1.6			
AVERAGE (TOTAL)				123	(7.18)	68	68	1.6			3.2

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 2)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 9/9-10/75
Test Number: Andersen Impactor Sample-3
Field Person: RGK
Filter Number: A-245-17
Barometric Pressure ("Hg): Avg. 29.70
Stack Static Pressure ("H_2O): -0.31
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every Push

Filter Heater Setting: --
Probe Heater Setting: --
Nozzle Number: --, Dia.(in.): 1/4
Pitot Tube No. 19, Corr. Factor: 0.854
Meter Box No. RAC-4, Corr. Factor: 1.009
Meter Isokinetic Factor: 1683
Assumed Moisture(%): --
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate 0.004 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
W-3	0	09:59	0.65	130	103.053	60	69	2.7			
	36		0.65	135				2.7			
	72		0.65	130	103.732	60	69	2.7			
9/10 W-3	0	08:22	0.65	130	103.733	62	69	2.7			
	36		0.65	140		62	69	2.7			
	72		0.65	140	104.838	62	70	2.7			
W-3	0	08:35	0.65	135	104.838	63	69	2.7			
	36		0.65	140				2.7			
	72		0.65	130	105.898	64	69	2.7			
W-3	0	10:05	0.65	130	105.898	66	69	2.7			
	36		0.65	145				2.7			
	72		0.65	145	106.933	66	69	2.7			
W-3	0	10:17	0.65	135	106.933	67	68	2.7			
	36		0.65	145				2.7			
	72		0.65	145	107.978	68	68	2.7			
AVERAGE (TOTAL)					( )						

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 2 of 2)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 9/10/75
Test Number: Andersen Impactor Sample-3
Field Person: RGK
Filter Number: A-245-17
Barometric Pressure ("Hg): Avg.29.70
Stack Static Pressure ("H_2O): -0.31
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every Push

Filter Heater Setting: --
Probe Heater Setting: --
Nozzle Number: -- ,Dia.(in.): 1/4
Pitot Tube No. 19 ,Corr.Factor: 0.854
Meter Box No. RAC-4 ,Corr.Factor: 1.009
Meter Isokinetic Factor: 1683
Assumed Moisture(%): --
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-3	0	10:34	0.65	120	107.978	68	68	2.7			
	36		0.65	130				2.7			
	72		0.65	130	109.059	69	69	2.7			
W-3	0	11:55	0.65	125	109.062	70	70	2.7			
	36		0.65	140				2.7			
	72		0.65	130	110.131	70	70	2.7			
W-3	0	12:12	0.65	125	110.131	70	70	2.7			
	36		0.65	125		70	70	2.7			
	72		0.65	130	111.213	71	69	2.7			
W-3	0	12:25	0.65	125	111.213	71	69	2.7			
	36		0.65	130		71	69	2.7			
	72		0.65	140	112.285	71	69	2.7			
AVERAGE (TOTAL)				134	(9.31)	67	69	2.7			

SAMPLING TRAIN DATA

(Page 1 of 2)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 9/10-11/75

Filter Heater Setting: --

Test Number: Andersen Impactor Sample-4

Probe Heater Setting: --

Field Person: RGK/GMS

Nozzle Number: ---, **Dia. (in.):** 1/4

Filter Number: A-245-24

Pitot Tube No. 19, **Corr. Factor:** 0.854

Barometric Pressure ("Hg): Avg. 29.40

Meter Box No. RAC-4, **Corr. Factor:** 1.009

Stack Static Pressure ("H_2O): -0.31

Meter Isokinetic Factor: 1683

Stack Dimensions: 90" I.D.

Assumed Moisture (%): --

Plume Appearance: --

Condensate Volume (ml): --

Ambient Temperature (°F): --

Silica Gel Weight Gain (g): --

Record all Data Every Push

Leak Rate 0.01 **CFM at** 15 **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
W-4	0	14:06	0.65	135	112.342	73	69	2.7			
	36		0.65	145				2.7			
	72		0.65	140	113.427	74	69	2.7			
W-4	0	14:14	0.65	130	113.427	74	69	2.7			
	36		0.65	140				2.7			
	72		0.65	135	114.495	74	69	2.7			
W-4	0	14:27	0.65	130	114.495	74	69	2.7			
	36		0.65	135				2.7			
	72		0.65	125	115.567	74	69	2.7			
9/11 W-4	0	08:41	0.65	125	115.567	70	70	2.7			5.0
	36		0.65	135	116.0	71	71	2.7			
	72		0.65	135	116.561	72	72	2.7			
W-4	0	08:51	0.65	125	116.561	70	70	2.7			5.0
	36		0.65	125	117.0	71	71	2.7			
	72		0.65	130	117.621	71	71	2.7			
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 2)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 9/11/75
Test Number: Andersen Impactor Sample-4
Field Person: GMS
Filter Number: A-245-24
Barometric Pressure ("Hg): Avg. 29.40
Stack Static Pressure ("H_2O): -0.31
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every Push

Filter Heater Setting: --
Probe Heater Setting: --
Nozzle Number: -- **,Dia.(in.):** 1/4
Pitot Tube No. 19 **,Corr.Factor:** 0.854
Meter Box No. RAC-4 **,Corr.Factor:** 1.009
Meter Isokinetic Factor: 1683
Assumed Moisture(%): --
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate ______ **CFM at** ______ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
W-4	0	09:09	0.65	125	117.621	70	70	2.7			5.0
	36		0.65	125	118.2	71	71	2.7			5.0
	72		0.65	125	118.738	71	71	2.7			5.0
W-4	0	10:41	0.65	125	118.738	71	71	2.7			5.0
	36		0.65	125	119.3	72	72	2.7			5.0
	72		0.65	125	119.892	73	73	2.7			5.0
W-4	0	10:52	0.65	125	119.802	71	71	2.7			5.0
	36		0.65	127	120.3	72	72	2.7			5.0
	72		0.65	127	120.855	72	72	2.7			5.0
W-4	0	11:18	0.65	125	120.855	72	72	2.7			
	36		0.65	130	121.3	72	72	2.7			
	72		0.65	130	121.907	73	73	2.7			
AVERAGE (TOTAL)				130	(9.65)	72	71	2.7			5.0

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 9/11/75

Filter Heater Setting: --

Test Number: Andersen Impactor Sample-5

Probe Heater Setting: --

Field Person: GMS

Nozzle Number: --, Dia. (in.): 1/4

Filter Number: A-245-30

Pitot Tube No. 19, Corr. Factor: 0.854

Barometric Pressure ("Hg): 29.10

Meter Box No. RAC-4, Corr. Factor: 1.009

Stack Static Pressure ("H_2O): -0.31

Meter Isokinetic Factor: 1683

Stack Dimensions: 90" I.D.

Assumed Moisture (%): 1

Plume Appearance: --

Condensate Volume (ml): --

Ambient Temperature (°F): ---

Silica Gel Weight Gain (g): 200

Record all Data Every Push

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-4	0	14:06	0.67	125	121.978	71	71	2.8			5.0
	36		0.67	125	122.5	71	71	2.8			5.0
	72		0.67	125	123.098	72	72	2.8			5.0
N-4	0	14:18	0.67	120	123.098	71	71	2.8			5.0
	36		0.67	125	123.6	72	72	2.8			5.0
	72		0.67	125	124.227	72	72	2.8			5.0
N-4	0	14:25	0.67	125	124.227	71	71	2.8			
	36		0.67	125	124.8	72	72	2.8			
	72		0.67	125	125.310	72	72	2.8			
AVERAGE (TOTAL)				124	(3.36)	72	72	2.8			5.0

SAMPLING TRAIN DATA

(Page 1 of 2)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 9/12/75

Filter Heater Setting: --

Test Number: Andersen Impactor Sample-6

Probe Heater Setting: --

Field Person: RGK

Nozzle Number: -- ,Dia.(in.): 1/4

Filter Number: A-245-27

Pitot Tube No. 19,Corr.Factor: 0.854

Barometric Pressure ("Hg): Avg. 29.49

Meter Box No. RAC-4,Corr.Factor: 1.009

Stack Static Pressure ("H_2O): -0.31

Meter Isokinetic Factor: 1683

Stack Dimensions: 90" I.D.

Assumed Moisture(%): 1

Plume Appearance: --

Condensate Volume(ml): --

Ambient Temperature(°F): --

Silica Gel Weight Gain(g): --

Record all Data Every Push

Leak Rate 0.01 CFM at 15 "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F)					
						Inlet	Outlet				
N-4	0	09:56	0.67	110	125.570	56	69	2.8			5.0
	36		0.67	115				2.8			5.0
	72		0.67	125	126.614	57	69	2.8			5.0
N-4	0	10:09	0.67		126.614	57	69	2.8			5.0
	36		0.67	115				2.8			5.0
	72		0.67	125	127.685	57	69	2.8			5.0
N-4	0	10:32	0.67	110	127.685	57	69	2.8			5.0
	36		0.67	115				2.8			5.0
	72		0.67	115	128.757	57	69	2.8			5.0
N-4	0	12:25	0.67	115	128.757	59	69	2.8			5.0
	36		0.67	117		59	69	2.8			5.0
	72		0.67	125	129.835	59	69	2.8			5.0
N-4	0	12:38	0.67	110	129.840	60	70	2.8			5.0
	36		0.67	115				2.8			5.0
	72		0.67	117	130.934	60	70	2.8			5.0
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 2)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet
Date: 9/15/75
Test Number: Andersen Impactor Sample-6
Field Person: GMS
Filter Number: A-245-27
Barometric Pressure ("Hg): Avg. 29.49
Stack Static Pressure ("H_2O): -0.31
Stack Dimensions: 90" I.D.
Plume Appearance: --
Ambient Temperature(°F): --
Record all Data Every Push

Filter Heater Setting: --
Probe Heater Setting: --
Nozzle Number: -- ,Dia.(in.): 1/4
Pitot Tube No. 19,Corr.Factor: 0.854
Meter Box No. RAC-4,Corr.Factor: 1.009
Meter Isokinetic Factor: 1683
Assumed Moisture(%): 1
Condensate Volume(ml): --
Silica Gel Weight Gain(g): --
Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-4	0	08:25	0.67	120	130.934	67	68	2.8			
	36		0.67	120	131.3	68	68	2.8			
	72		0.67	125	131.998	68	68	2.8			
N-4	0	09:55	0.67	120	131.998	68	68	2.8			
	36		0.67	120	132.7	68	68				
	72		0.67	125	133.229	68	68	2.8			
N-4	0	10:02	0.67	120	133.229	68	68	2.8			
	36		0.67	120	133.7	68	68	2.8			
	72		0.67	125	134.264	68	68	2.8			
N-4	0	10:10	0.67	120	134.264	68	68	2.8			
	36		0.67	120	134.7	68	68	2.8			
	72		0.67	125	135.111	68	68	2.8			
AVERAGE (TOTAL)				119	(9.62)	63	69	2.8			5.0

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

(Page 1 of 2)

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Outlet

Date: 9/15/75	Filter Heater Setting: --
Test Number: Andersen Impactor Sample-7	Probe Heater Setting: --
Field Person: GMS	Nozzle Number: --, Dia. (in.): 1/4
Filter Number: A-253-10	Pitot Tube No. 19, Corr. Factor: 0.854
Barometric Pressure ("Hg): 29.60	Meter Box No. RAC-4, Corr. Factor: 1.009
Stack Static Pressure ("H_2O): -0.31	Meter Isokinetic Factor: 1683
Stack Dimensions: 90" I.D.	Assumed Moisture (%): 1
Plume Appearance: --	Condensate Volume (ml): --
Ambient Temperature (°F): --	Silica Gel Weight Gain (g): --
Record all Data Every Push	Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-4	0	12:23	0.67	120	135.402	68	68	2.8			5.0
	36		0.67	125	135.9	68	68	2.8			5.0
	72		0.67	125	136.408	68	68	2.8			5.0
N-4	0	12:59	0.67	120	136.408	68	68	2.8			5.0
	36		0.67	125	137.0	69	69	2.8			5.0
	72		0.67	125	137.577	69	69	2.8			5.0
N-4	0	13:22	0.67	120	137.577	69	69	2.8			5.0
	36		0.67	125		69	69	2.8			5.0
	72		0.67		138.746						
N-4	0	14:25	0.67	120	138.746	69	69	2.8			5.0
	36		0.67	120	139.2	69	69	2.8			5.0
	72		0.67	120	139.812	69	69	2.8			5.0
N-4	0	14:50	0.67	120	139.812	69	69	2.8			5.0
	36		0.67	120	140.2	69	69	2.8			5.0
	72		0.67	120	140.854	69	69	2.8			5.0
AVERAGE (TOTAL)					( )						

SAMPLING TRAIN DATA

(Page 2 of 2)

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Outlet

Date: 9/15-16/75

Test Number: Andersen Impactor Sample-7

Field Person: GMS

Filter Number: A-253-10

Barometric Pressure ("Hg): 29.60

Stack Static Pressure ("H_2O): -0.31

Stack Dimensions: 90" I.D.

Plume Appearance: --

Ambient Temperature(°F): --

Record all Data Every Push

Filter Heater Setting: --

Probe Heater Setting: --

Nozzle Number: -- ,Dia.(in.): 1/4

Pitot Tube No. 19, Corr. Factor: 0.854

Meter Box No. RAC-4, Corr. Factor: 1.009

Meter Isokinetic Factor: 1683

Assumed Moisture(%): 1

Condensate Volume(ml): --

Silica Gel Weight Gain(g): --

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (sec)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
N-4	0	14:56	0.67	120	140.854	69	69	2.8			5.0
	36		0.67	125	141.1	69	69	2.8			5.0
	72		0.67	130	141.380	69	69	2.8			5.0
N-4	0	08:34	0.67	120	141.380	60	70	2.8			5.0
	36		0.67	122	141.9	61	70	2.8			5.0
	72		0.67	125	142.413	62	70	2.8			5.0
N-4	0	08:48	0.67	120	142.413	61	70	2.8			5.0
	36		0.67	120	142.9	61	70	2.8			5.0
	72		0.67	122	143.422	61	70	2.8			5.0
N-4	0	08:55	0.67	120	143.422	61	70	2.8			5.0
	36		0.67	122	143.9	61	70	2.8			5.0
	72		0.67	125	144.431	61	70	2.8			5.0
AVERAGE (TOTAL)				122	(9.11)	66	69	2.8			5.0

Clayton Environmental Consultants, Inc.

TOTAL HYDROCARBON DATA SHEET

Project: Ford Motor Company

Field Person: RJP

Sampling Station	Test Number		1975 Date	Time	Sampling Rate (lpm)	Final Volume (liters)
Coke Battery A Scrubber Inlet	Preliminary 1	Initial	1-10	10:12	4.5	2.62
		Final		35 sec.		
Coke Battery A Scrubber Inlet	Preliminary 2	Initial	1-10	10:35	4.5	2.25
		Final		30 sec.		

Clayton Environmental Consultants, Inc.

TOTAL HYDROCARBON DATA SHEET

Project: Ford Motor Company   Field Person: GEH

Sampling Station	Test Number		1975 Date	Time	Sampling Rate (lpm)	Final Volume (liters)
Coke Battery A Scrubber Inlet	Preliminary 4	Initial	2-4	15:09	1.004	0.703
		Final		42 sec.		
Coke Battery A Scrubber Inlet	Preliminary 5	Initial	2-4	15:22	1.004	0.703
		Final		42 sec.		
Coke Battery A Scrubber Inlet	Preliminary 6	Initial	2-4	16:30	1.055	0.738
		Final		42 sec.		
Coke Battery A Scrubber Inlet	Preliminary 7	Initial	2-4	16:30	1.004	0.703
		Final		42 sec.		
Coke Battery A Scrubber Inlet	Preliminary 8	Initial	2-6	11:46	1.004	0.753
		Final		45 sec.		
Coke Battery A Scrubber Inlet	Preliminary 9	Initial	2-6	11:46	1.055	0.791
		Final		45 sec.		
Coke Battery A Scrubber Inlet	Preliminary 10	Initial	2-6	12:34	1.004	0.736
		Final		44 sec.		
Coke Battery A Scrubber Inlet	Preliminary 11	Initial	2-6	12:34	1.055	0.774
		Final		44 sec		

Clayton Environmental Consultants, Inc.

TOTAL HYDROCARBON DATA SHEET

Project: Ford Motor Company **Field Person:** GEH

Sampling Station	Test Number		1975 Date	Time	Sampling Rate (lpm)	Final Volume (liters)
Coke Battery A Scrubber Inlet	Preliminary 12	Initial	2-6	12:45	1.004	0.653
		Final		39 sec.		
Coke Battery A Scrubber Inlet	Preliminary 13	Initial	2-6	12:45	1.055	0.686
		Final		39 sec.		

Clayton Environmental Consultants, Inc.

C-202

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 2-6-75

Filter Heater Setting:

Test Number: Preliminary H_2SO_4-1

Probe Heater Setting:

Field Person: RCM

Nozzle Number: ____, Dia. (in.): ____

Filter Number:

Pitot Tube No. ____, Corr. Factor:

Barometric Pressure ("Hg): 29.28

Meter Box No. MAC-2, Corr. Factor 0.994

Stack Static Pressure ("H_2O): -3.0

Meter Isokinetic Factor:

Stack Dimensions: 66" I.D.

Assumed Moisture (%):

Plume Appearance:

Condensate Volume (ml): -3

Ambient Temperature (°F):

Silica Gel Weight Gain (g): 8

Record all Data Every ____ Minutes

Leak Rate ____ CFM at ____ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		11:25		35	664.345	49	42	2.5			5.5
CL		11:40		34	677.5	46	40	2.5			5.5
CL		11:55		35	690.6	46	38	2.5			5.5
CL		12:10		31	703.6	46	37	2.5			5.5
CL		12:25			716.710						
AVERAGE (TOTAL)				34	(52.051)	47	39	2.5	—	—	5.5

Clayton Environmental Consultants, Inc.

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 2-6-75

Test Number: Preliminary H_2SO_4-2

Field Person: RCM

Filter Number:

Barometric Pressure ("Hg): 29.28

Stack Static Pressure ("H_2O): -3.0

Stack Dimensions: 66" I.D.

Plume Appearance:

Ambient Temperature(°F):

Record all Data Every ____ **Minutes**

Filter Heater Setting:

Probe Heater Setting:

Nozzle Number: ____ **,Dia.(in.):**

Pitot Tube No. ___ **,Corr.Factor:**

Meter Box No. MAC-2 **,Corr.Factor:** 0.994

Meter Isokinetic Factor:

Assumed Moisture(%):

Condensate Volume(ml): -1

Silica Gel Weight Gain(g): 8

Leak Rate ____ **CFM at** ____ **"Hg**

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft^3)	Temp (°F) Inlet	Temp (°F) Outlet				
CL		12:35		240	716.710	42	35	2.5			5.5
CL		12:50		35	729.7	44	35	2.5			6.0
CL		13:05		32	742.7	45	35	2.5			6.0
CL		13:20		500	755.8	46	35	2.5			6.0
CL		13:35			769.080						
AVERAGE (TOTAL)				202	(52.056)	44	35	2.5			5.9

SAMPLING TRAIN DATA

Company: Ford Motor Company

Source Designation: Coke Battery A Scrubber Inlet

Date: 2-6-75

Test Number: Preliminary H_2SO_4-3

Field Person: RCM

Filter Number:

Barometric Pressure ("Hg): 29.28

Stack Static Pressure ("H_2O): -3.0

Stack Dimensions: 66" I.D.

Plume Appearance:

Ambient Temperature(°F):

Record all Data Every ______ Minutes

Filter Heater Setting:

Probe Heater Setting:

Nozzle Number: ____, Dia.(in.):

Pitot Tube No. ___, Corr.Factor:

Meter Box No. MAC-2, Corr.Factor: 0.994

Meter Isokinetic Factor:

Assumed Moisture(%):

Condensate Volume(ml): -6

Silica Gel Weight Gain(g): 8

Leak Rate ______ CFM at ______ "Hg

Traverse Point No.	Time		Velocity Pressure ("H_2O)	Stack Temp (°F)	Dry Gas Meter			Orifice Pressure Differential ("H_2O)	Filter Box Temp (°F)	Last Imp. Gas Temp (°F)	Sampling Train Static Pressure ("Hg)
	Sampling (min)	Clock			Volume (ft³)	Temp (°F)					
						Inlet	Outlet				
CL		14:00		44	769.080	42	35	3.0			6.5
CL		14:15		45	783.6	44	34	3.0			7.5
CL		14:30		30	797.1	45	35	3.0			7.5
CL		14:45		30	811.3	48	36	3.0			10.0
CL		15:00			825.952						
AVERAGE (TOTAL)				37	(56.531)	45	35	3.0	—	—	7.9

CRITICAL ORIFICE SAMPLING DATA

Company: Ford Motor Company
Source Designation: Coke Battery A Scrubber Inlet
Field Person: R.G. Keller

Date 1975	Material Sampled and Test Number	Orifice Number	Sampling Period		Δt (min)	Barometric Pressure ("Hg)	Inlet Vacuum ("H_2O)	Outlet Vacuum ("Hg)	Inlet Temp (°F)	Sampled Volume (liters)
			Start	Stop						
4-9	Preliminary CN-1	10	13:21:30	13:23:00	1.50	29.59	22.0	23.0	42	1.53
			13:32:45	13:34:15	1.50	29.59	22.0	23.0	42	1.53
			13:45:50	13:47:35	1.75	29.59	22.0	23.0	42	1.79
			13:53:45	13:54:45	3.00	29.59	22.0	23.0	42	3.07
			14:13:00	14:17:45	4.75	29.59	22.0	23.0	42	4.85
			14:20:15	14:23:00	2.75	29.59	22.0	23.0	42	2.81
			14:29:45	14:34:35	4.83	29.59	22.0	23.0	42	4.94
			14:50:00	15:00:53	10.88	29.59	22.0	23.0	42	11.12
4-9	Preliminary CN-2	10	15:08:18	15:10:52	2.57	29.59	22.0	23.0	42	2.63
4-10	Preliminary CN-3	2	13:50:35	13:52:40	2.08	29.61	11.3	22.7	48	2.19
			14:07:00	14:18:00	11.00	29.61	10.8	22.7	48	11.62
			14:14:30	14:17:00	2.50	29.61	17.1	22.7	49	2.60
			14:29:05	14:36:45	7.67	29.61	16.1	22.7	46	8.01
			14:40:00	14:49:00	9.00	29.61	16.7	22.7	46	9.38

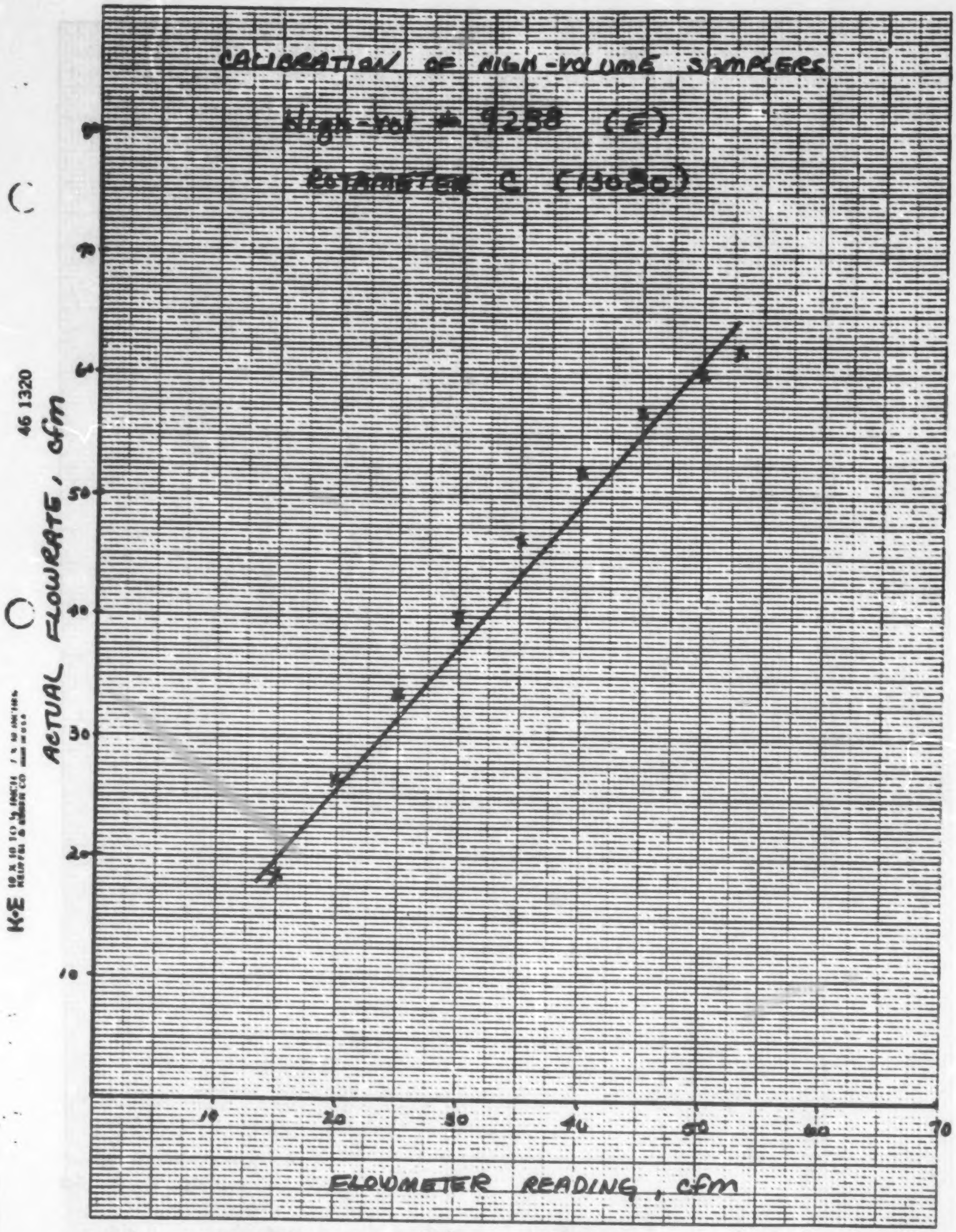
$$Q_{std} = Q_{cal} \times \left[\frac{P_f}{P_{std}} \times \frac{T_{std}}{T_{cal}} \times \sqrt{\frac{T_{cal}}{T_f}}\right]$$

Sample volume = Q_{std}x (min)

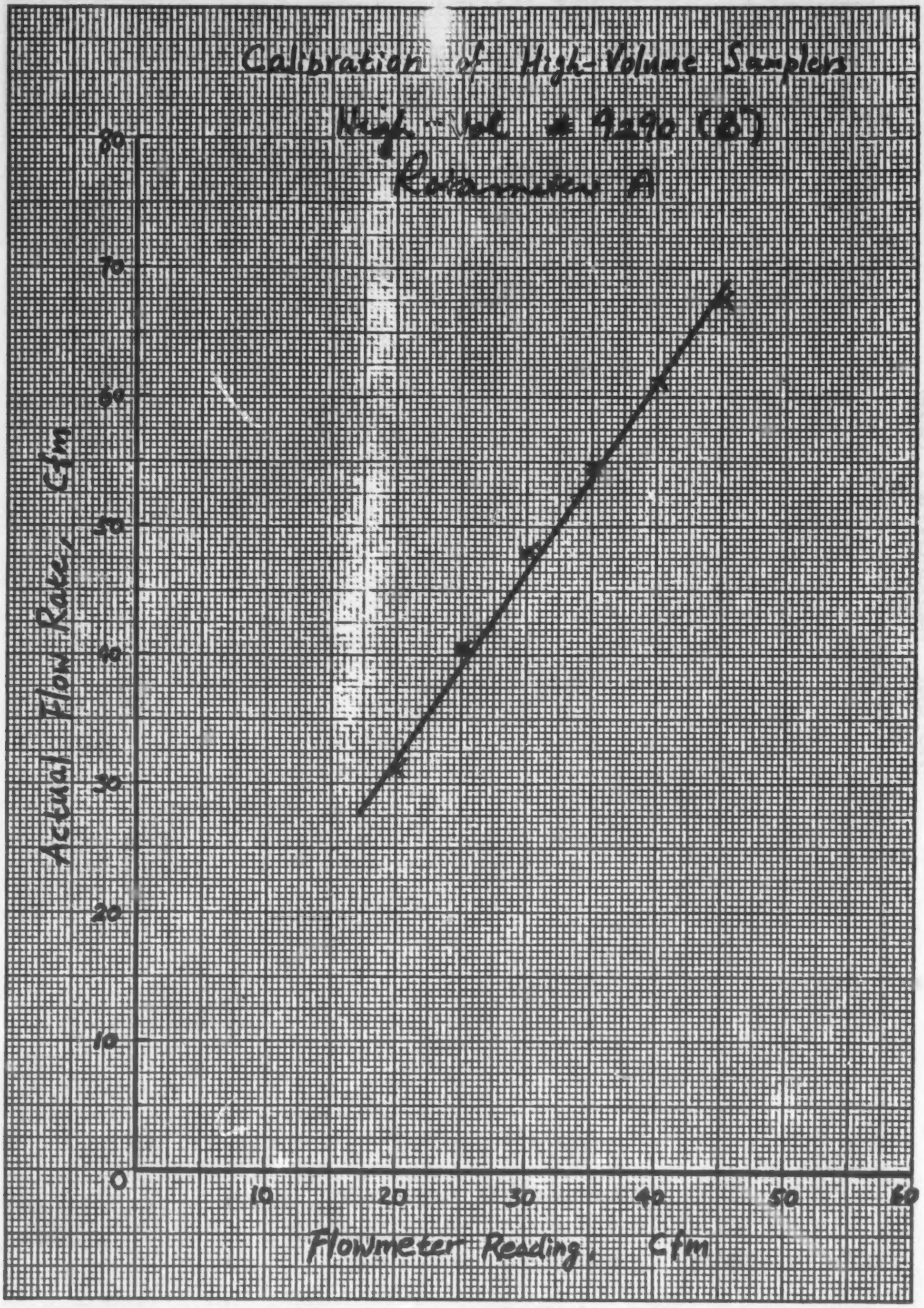
Clayton Environmental Consultants, Inc.

APPENDIX D-i

CALIBRATIONS

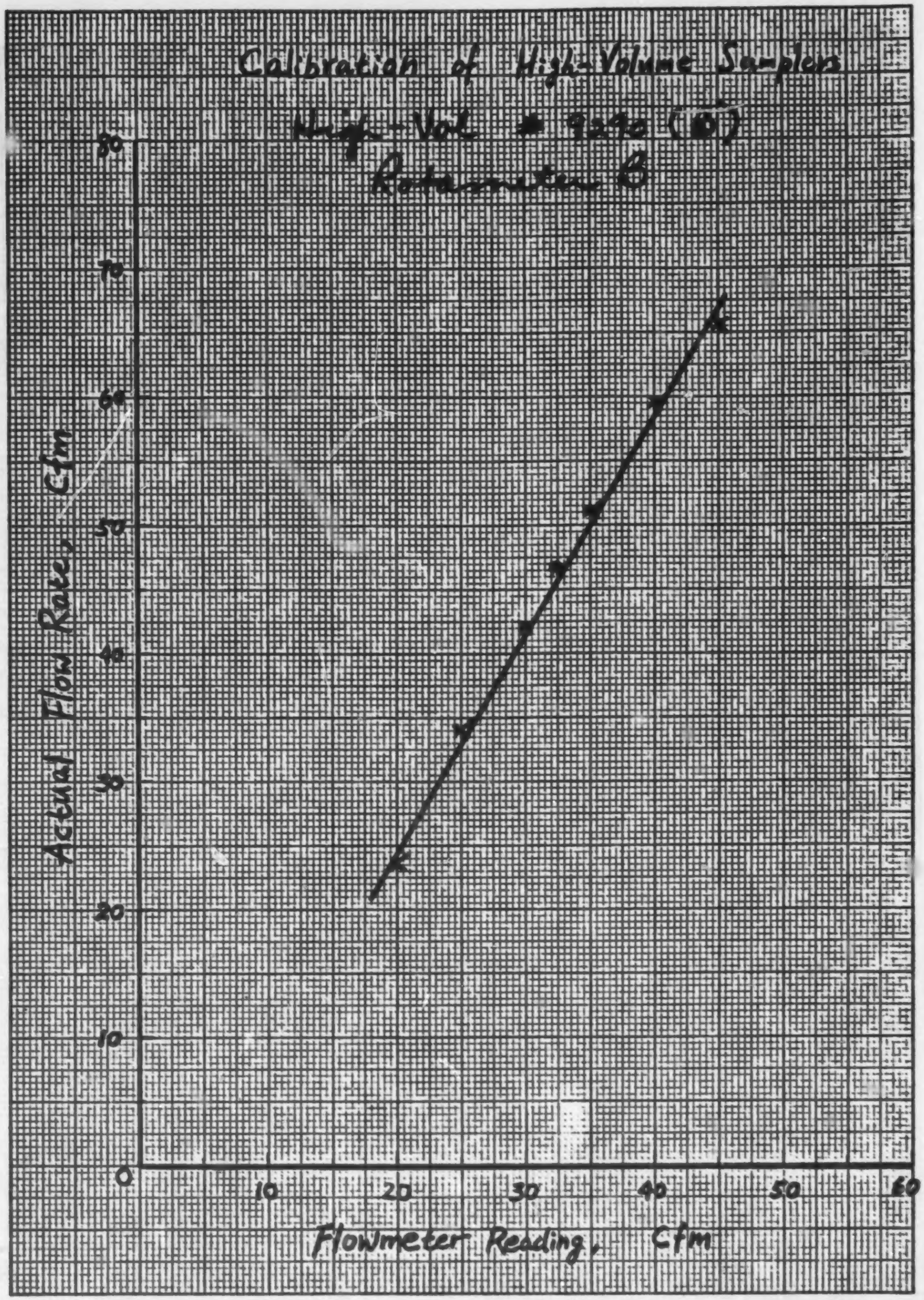


TRS 6/23/75 29.49" Hg 24.9°C.



Calibration of High-Volume Samplers
High-Vol # 9290 (B)
Rotameter A

TRJ 6-6-75 28.79 in. Hg 20.5°C



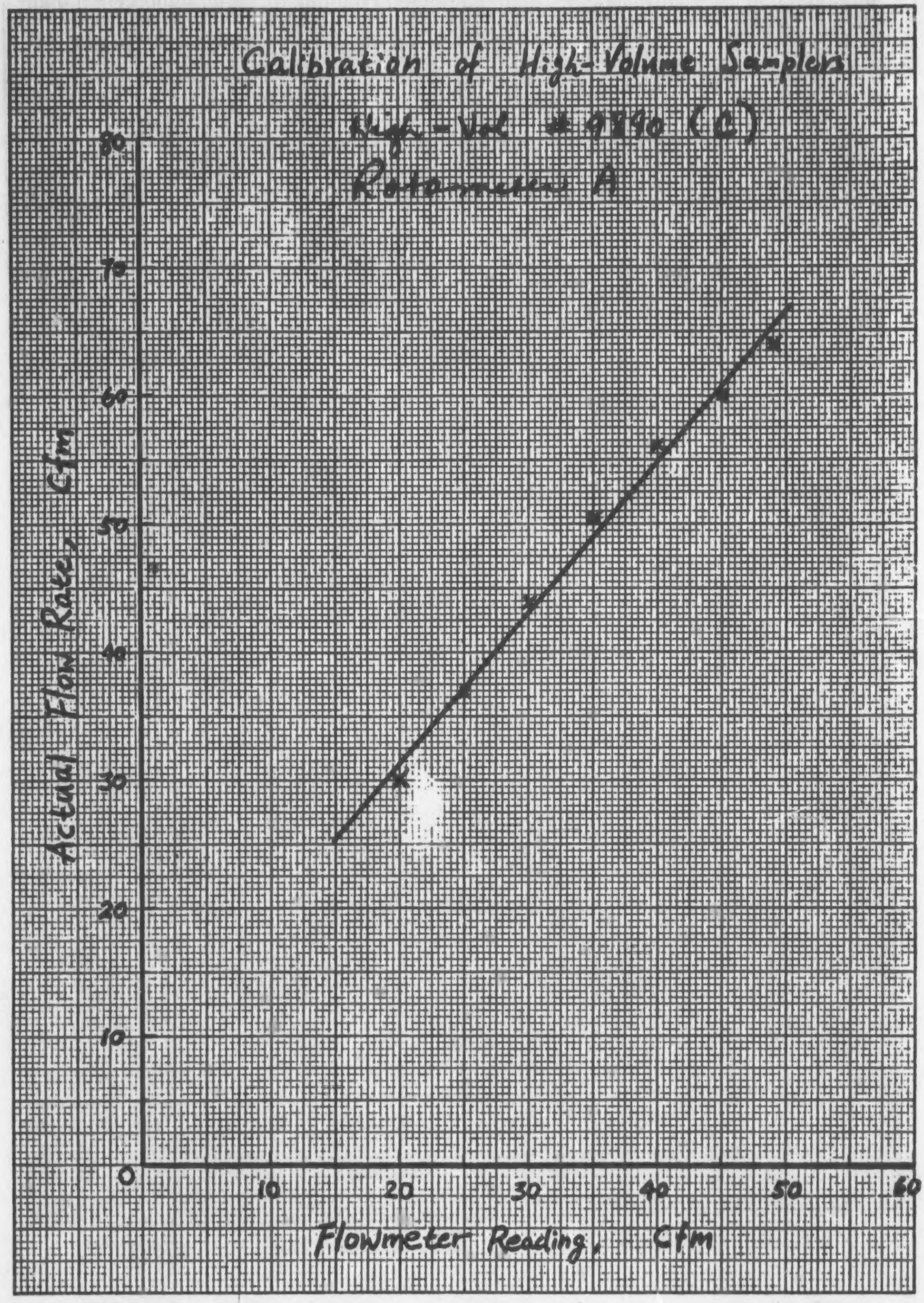
Calibration of High-Volume Samplers

High-Vol # 9290 ([illegible])

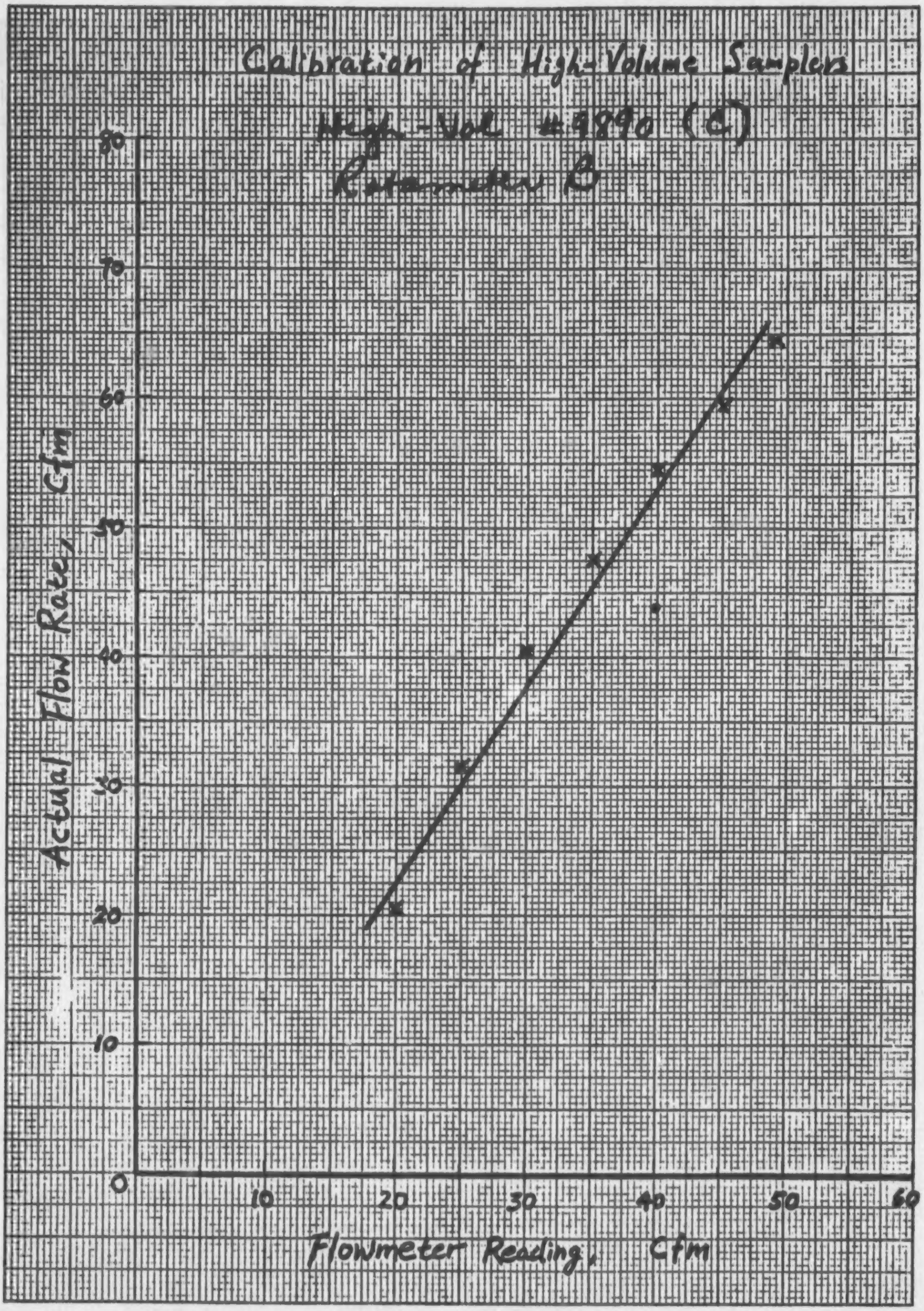
Rotameter B

TRJ 6-6-75 28.79 in. Hg 20.5°C

K+E 10 X 10 TO 1/2 INCH 46 1320
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.

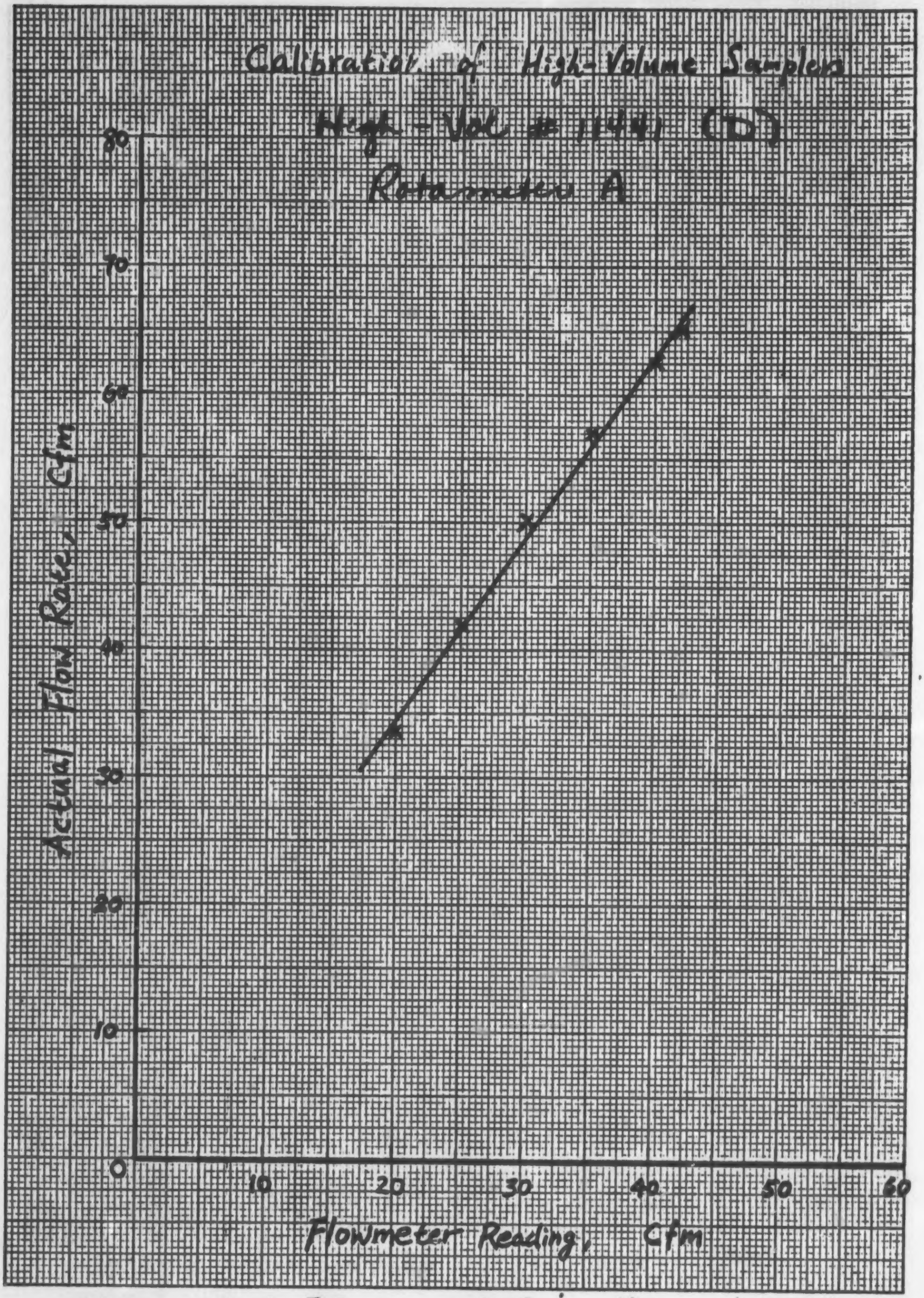


TRJ 6-6-75 28.79 in. Hg 20.5°C



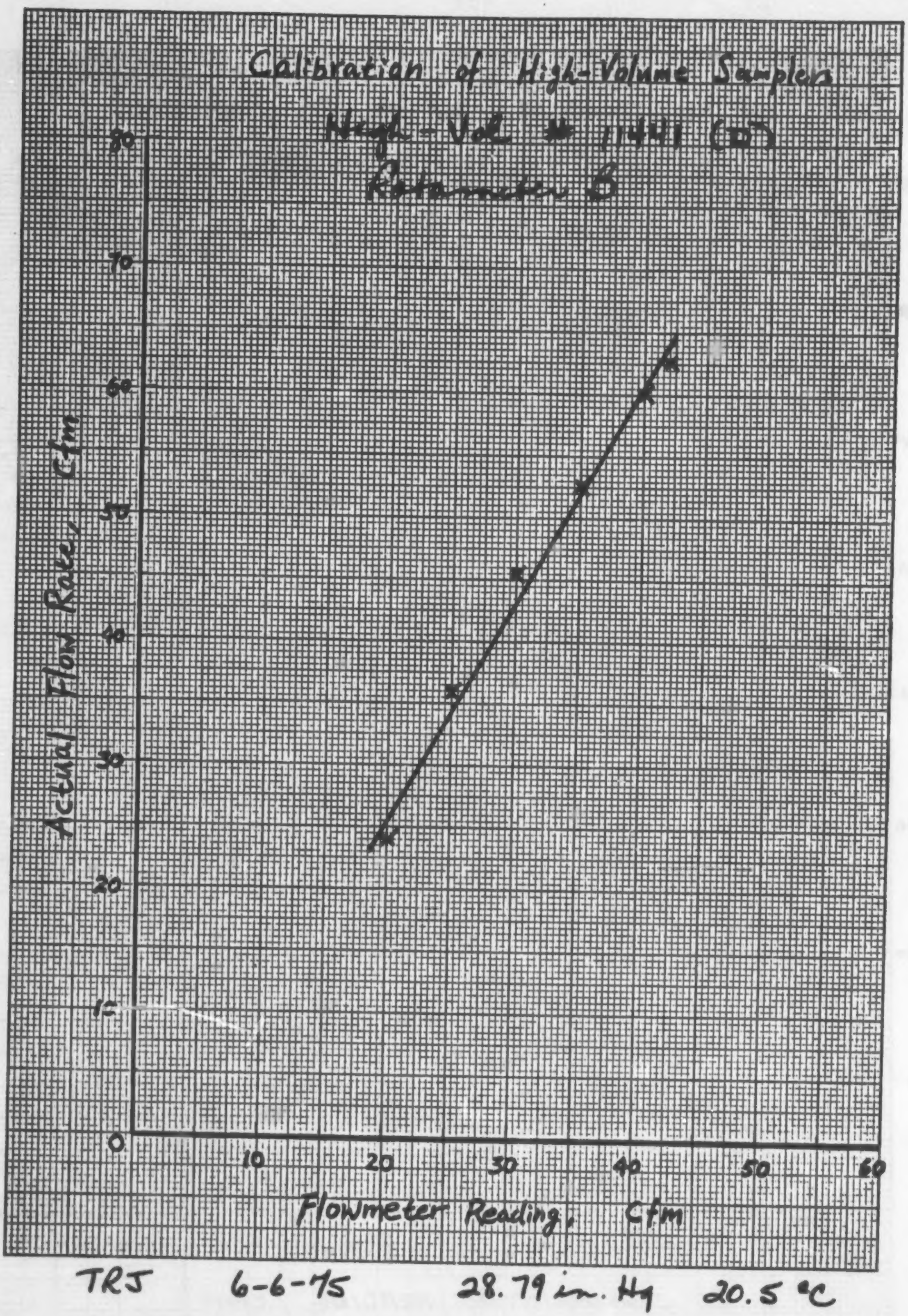
TRJ 6-6-75 28.79 in. Hg 20.5°C

K+E 10 X 10 TO ½ INCH 46 1320
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.



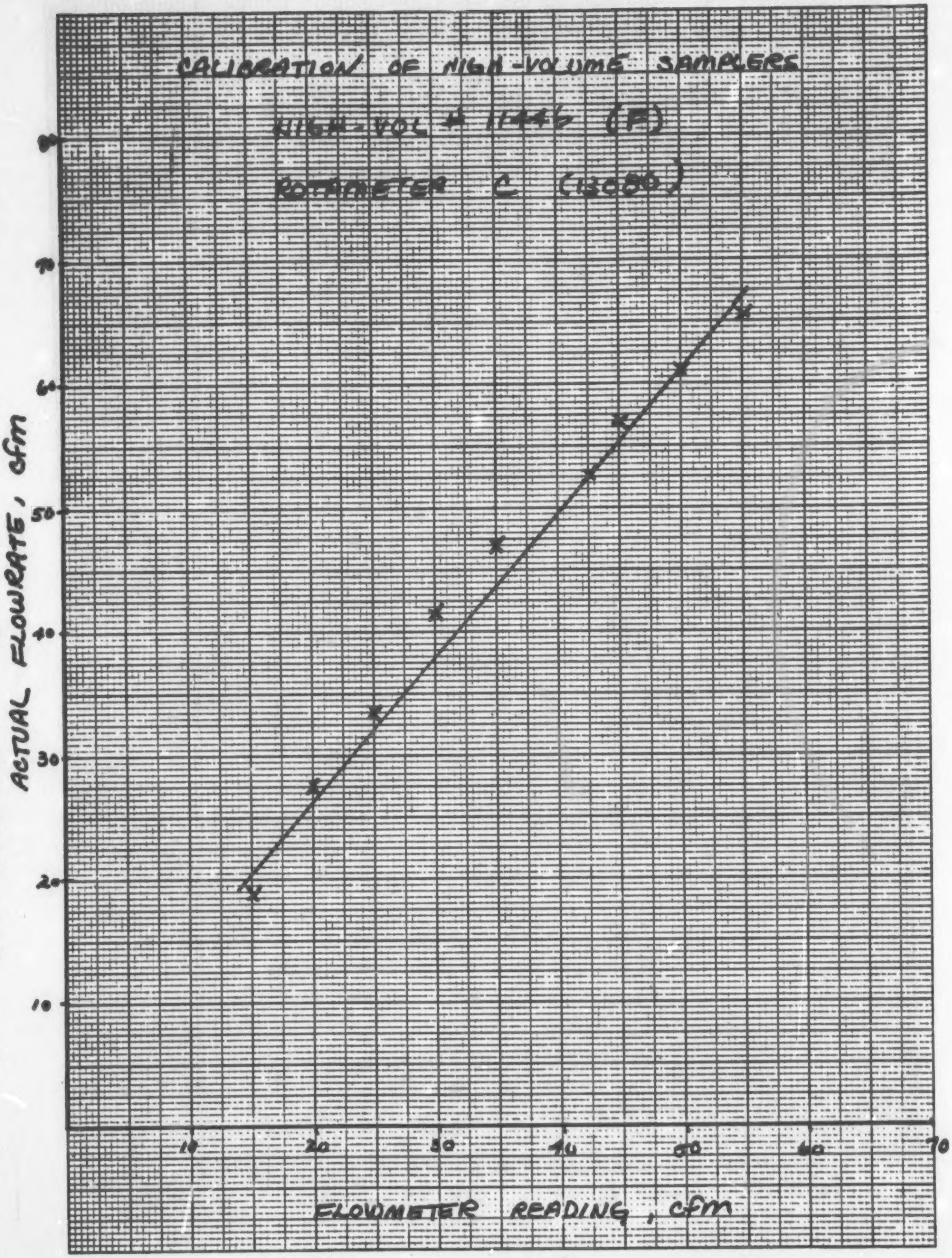
TRJ 6-6-75 28.79 in. Hg 20.5°C

K+E 10 X 10 TO ½ INCH 46 1320
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.

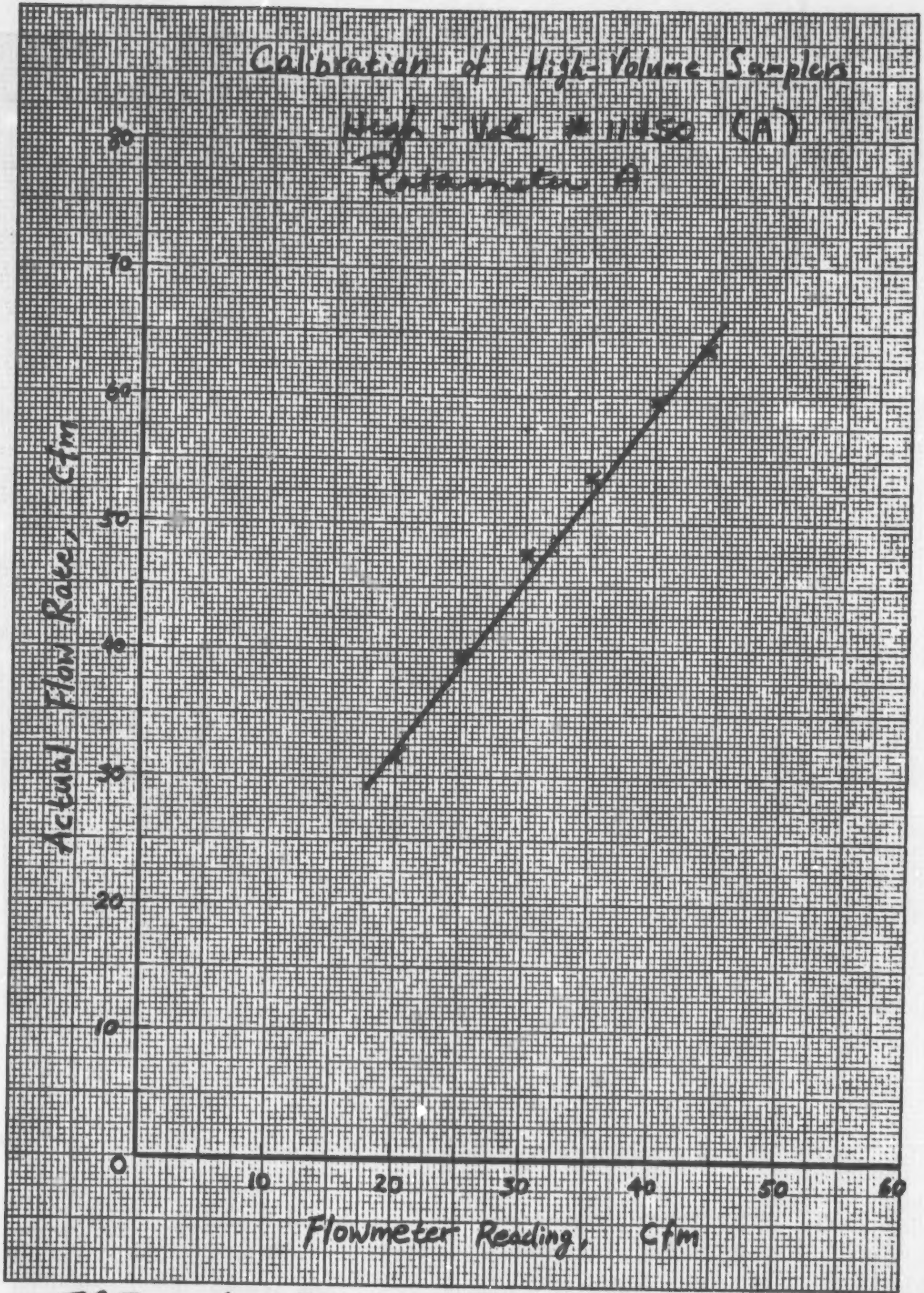


TRJ 6-6-75 28.79 in. Hg 20.5 °C

K+E 10 X 10 TO ½ INCH 46 1320
7 X 10 INCHES
KEUFFEL & ESSER CO.



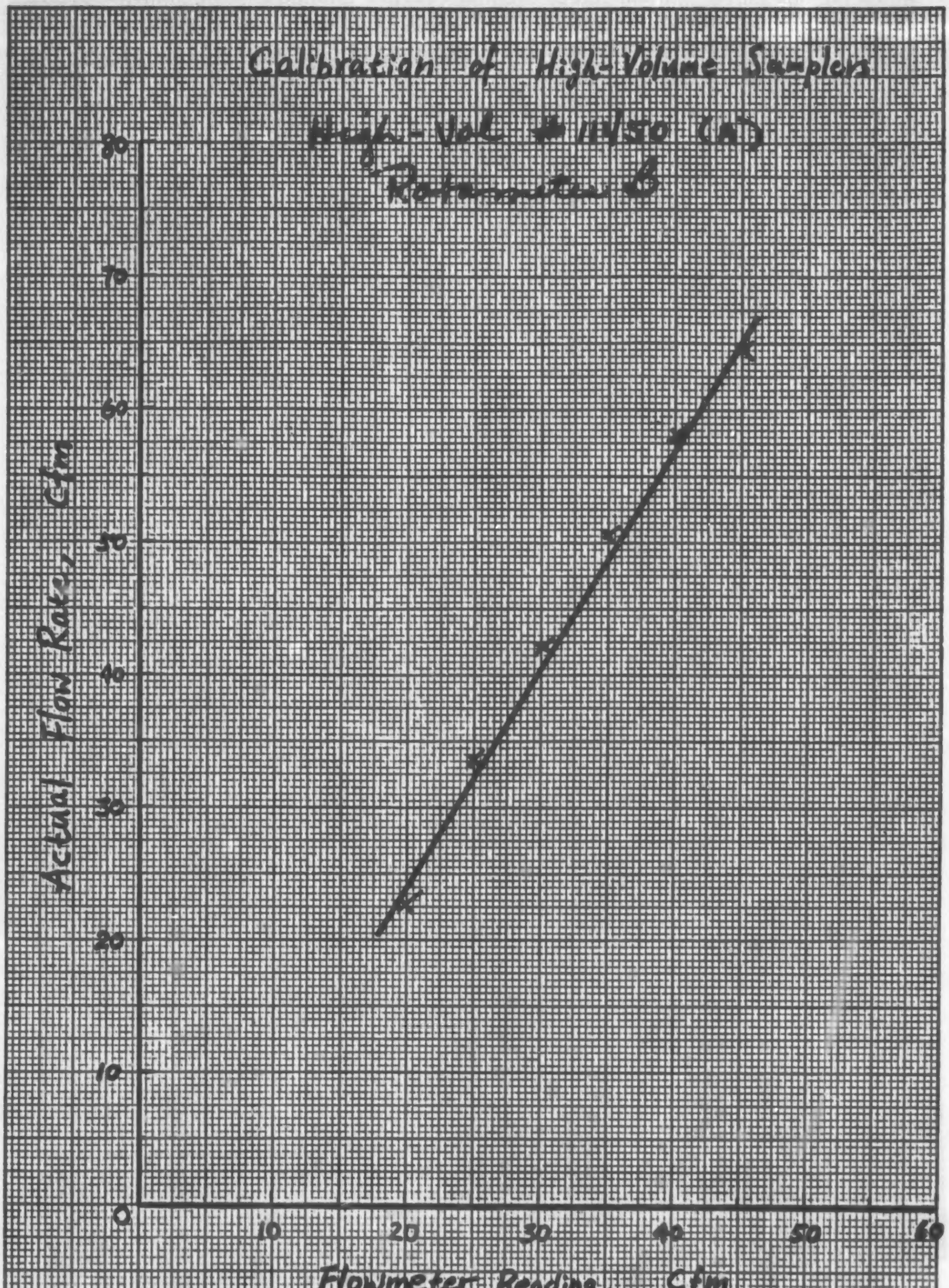
TRJ 6/23/75 29.49" Hg 24.9°C



Calibration of High-Volume Samplers
High-Vol #11450 (A)
Rotameter A

TRJ 6-6-75 28.79 in. Hg 20.5°C

K+E 10 X 10 TO ½ INCH 46 1320
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.



TRJ 6-6-75 28.79 in. Hg 20.5°C

K·E 10 X 10 TO ½ INCH 7 X 10 INCHES 46 1320 MADE IN U.S.A. KEUFFEL & ESSER CO.

Date 4/4/75 Client 2° TO FORD Meter Box Number

Barometri Pressure Pb ("Hg) 29.55 Ca`` brator G.E.11 Gas Meter Number MIAC # 2

	Orifice Manometer Setting, Δm (in. H_2O) P_d	Gas Volume Wet Test Meter V_w (ft³)	Gas Volume Dry Gas Meter V_d (ft³)	Temperature				Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
				Wet Test Meter t_w (°F)	Dry Gas Meter						
					Inlet t_{di} (°F)	Outlet t_{do} (°F)	Average t_d (°F)				
Stop	0.5	0545.00	571.087	77°	82°	74°	78	.08	12.61	0.981	0.13152
Start		0540.00	566.000	77°	80°	72°	76	.08			
Average	29.59	(5) 5.00	5.087	77	81	73	77	29.54			
Stop	1.0	0550.00	576.190	77°	82°	74°	78	.08	9.06	0.979	0.12944
Start		0545.00	571.097	77°	82°	74°	78	.08			
Average	29.62	(5) 5.00	5.103	77	82	74	78	29.54			
Stop	2.0	0560.00	586.394	76°	82	74°	78	.10	12.74	0.978	0.13030
Start		0550.00	576.190	75°	82°	74°	78	.10			
Average	29.70	(10) 10.00	10.204	76	82	74	78	29.54			
Stop	3.0	0570.00	596.595	75°	82°	74°	78	.10	10.48	0.976	0.12933
Start		0560.00	586.394	76°	82°	74°	78	.10			
Average	29.77	(10) 10.00	10.201	76	82	74	78	29.54			
Stop	4.0	0580.00	606.786	77°	84°	76°	80	.12	9.11	0.977	0.12885
Start		0570.00	596.595	76°	83°	74°	78	.12			
Average	29.84	(10) 10.00	10.191	76	84	75	79	29.54			
Stop	5.0	0590.00	616.968	77°	84°	76°	80	.12	8.25	0.975	0.12714
Start		0580.00	606.786	77°	84°	76°	80	.12			
Average	29.92	(10) 10.00	10.182	77	84	76	80	29.54			
									AVERAGE	0.978	0.12943

$$P_w = P_b - \frac{P_w}{13.6} \qquad P_d = P_b + \frac{\Delta m}{13.6} \qquad K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w \, \Delta m}}$$

$$\gamma = \frac{V_w \, P_w \, (t_d + 460)}{V_d \, P_d \, (t_w + 460)}$$

Factor in isokinetic equation $= \frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2} =$ 1636

Date APRIL 23, 1975 Client FORD MOTOR Co. Kltun Meter Box Number MAC 1
Barometr. Pressure Pb ("Hg) 29.34 Calibrator G.E.H. Gas Meter Number MAC #2

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft^3)	Gas Volume Dry Gas Meter V_d (ft^3)	Temperature				Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
				Wet Test Meter t_w (°F)	Dry Gas Meter						
					Inlet t_{di} (°F)	Outlet t_{do} (°F)	Average t_d (°F)				
Stop	0.5	0615.00	714.083								
Start		0610.00	709.000	73°	78°	68°					
Average	29.38	(5) 5.00	5.083				73	.08 29.33	12.70	0.982	.13061
Stop	1.0	0620.00	719.165								
Start		0615.00	714.083	73°	78°	70°					
Average	29.41	(5) 5.00	5.082				74	.15 29.33	9.02	0.983	.13003
Stop	2.0	0630.00	729.370								
Start		0620.00	719.165	73°	78°	70°					
Average	29.49	(10) 10.00	10.205				74	.12 29.33	12.71	0.976	.13051
Stop	3.0	0640.00	739.564								
Start		0630.00	729.370	74°	78°	72°					
Average	29.56	(10) 10.00	10.194				75	.12 29.33	10.42	0.975	.12985
Stop	4.0	0650.00	749.746								
Start		0640.00	739.564	72°	80°	72°					
Average	29.63	(10) 10.00	10.182				76	.12 29.33	9.15	0.979	.12831
Stop	5.0	0660.00	759.925								
Start		0650.00	749.746	72°	80	72°					
Average	29.71	(10) 10.00	10.179				76	.12 29.33	8.21	0.977	.12790
									AVERAGE	0.979	0.12954

$P_w = P_b - \frac{p_w}{13.6}$ $P_d = P_b + \frac{\Delta m}{13.6}$ $K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w \Delta m}}$

$\gamma = \frac{V_w P_w (t_d + 460)}{V_d P_d (t_w + 460)}$ Factor in isokinetic equation $= \frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2} = 1633$

Date 12/6/74 Client ______ Calibrator RJG Meter Box Number MAC 4
Barometric Pressure Pb ("Hg) ______ Gas Meter Number ______

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft³)	Gas Volume Dry Gas Meter V_d (ft³)	Temperature Wet Test Meter t_w (°F)	Dry Gas Meter Inlet t_{di} (°F)	Dry Gas Meter Outlet t_{do} (°F)	Dry Gas Meter Average t_d (°F)	Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
Start	0.5	7116.00	464.778	74	70	68		.08	13.22	0.994	1723
Stop		7121.00	474.763	74	71	70		.08			
Average		(5)	4.985								
Start	1.0	7122.00	475.769	74	73	70		.08	9.47	0.994	1771
Stop		7127.00	480.774	73	7[illegible]	71		.08			
Average		(5) 5.00	5.005								
Start	2.0	7138.00	491.810	73	80	74		.08	13.60	0.994	1824
Stop		7148.00	501.904	73	84	76		.08			
Average		(10)	10.094								
Start	3.0	7149.00	503.410	73	83	76		0.10	11.28	0.996	1886
Stop		7159.00	513.521	74	86	73		0.10			
Average		(10)	10.111								
Start	4.0	7160.00	514.024	74	85	78		0.11	9.85	0.994	1890
Stop		7170.00	524.168	73	89	79		0.11			
Average		(10)	10.13[illegible]								
Start	5.0	7186.00	550.554	73	85	82		0.11	8.87	0.991	1950
Stop		7196.00	560.743	73	91	83		0.11			
Average		(10)	10.189								
									AVERAGE	0.994	1841

$P_w = P_b - \frac{P_w}{13.6}$ $P_d = P_b + \frac{\Delta m}{13.6}$ $K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w \Delta m}}$

$\gamma = \frac{V_w P_w (t_d + 460)}{V_d P_d (t_w + 460)}$ Factor in isokinetic equation $= \frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2} =$

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Date 4/28/75 Client EPA - ST Louis Meter Box Number

Barometric Pressure Pb ("Hg) 29.32 Calibrator G.E.H. Gas Meter Number RAC # 1

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft^3)	Gas Volume Dry Gas Meter V_d (ft^3)	Temperature				Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
				Wet Test Meter t_w (°F)	Dry Gas Meter						
					Inlet t_{di} (°F)	Outlet t_{do} (°F)	Average t_d (°F)				
Stop	0.5	0875.00	313.885		104°	98°	101		12.31	0.977	.13457
Start		0870.00	308.500	74°	110°	100°	105	.08			
Average	29.36	(5) 5.00	5.385	74	107	99	103	29.31			
Stop	1.0	0880.00	319.278	74°	104°	98°	101		9.17	0.971	.12774
Start		0875.00	313.885	73°	104°	98°	101	.08			
Average	29.39	(5) 5.00	5.393	74	104	98	101	29.31			
Stop	2.0	0890.00	330.030	74°	106°	98°	102		13.21	0.974	.12541
Start		0880.00	319.278	74°	104°	98°	101	.10			
Average	29.47	(10) 10.00	10.752	74	105	98	102	29.31			
Stop	3.0	0900.00	340.754	74°	108°	98°	103		11.06	0.974	.12230
Start		0890.00	330.030	74°	106°	98°	102	.10			
Average	29.54	(10) 10.00	10.724	74	107	98	102	29.31			
Stop	4.0	0910.00	351.450	74°	108	98°	103		9.45	0.976	.12396
Start		0900.00	340.754	74	108	98°	103	.12			
Average	29.61	(10) 10.00	10.696	74	108	98	103	29.31			
Stop	5.0	0920.00	362.123	74°	110°	98°	104		8.49	0.977	.12341
Start		0910.00	351.450	74	109	98	103	.12			
Average	29.69	(10) 10.00	10.683	74	109	98	104	29.31			
									AVERAGE	0.974	.12623

$P_w = P_b - \frac{P_w}{13.6}$ $P_d = P_b + \frac{\Delta m}{13.6}$ $K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w \Delta m}}$

$\gamma = \frac{V_w P_w (t_d + 460)}{V_d P_d (t_w + 460)}$

Factor in isokinetic equation = $\frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2} =$ 1720

Date 5/25 Client GRANITE CITY Meter Box Number ______

Barometric Pressure Pb ("Hg) ______ Calibrator ______ Gas Meter Number RAC 2

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft^3)	Gas Volume Dry Gas Meter V_d (ft^3)	Temperature				Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
				Wet Test Meter t_w (°F)	Dry Gas Meter						
					Inlet t_{di} (°F)	Outlet t_{do} (°F)	Average t_d (°F)				
Stop	0.5	[illegible]	[illegible]		[illegible]		[illegible]		[illegible]	0.990	.12953
Start		[illegible]	[illegible]		[illegible]	[illegible]	96	[illegible]			
Average	[illegible]	(5) 5.00	5.301	69	[illegible]	[illegible]	[illegible]	29.54			
Stop	1.0	[illegible]	[illegible]		[illegible]	[illegible]	97		[illegible]	0.989	0.12677
Start		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	96				
Average	[illegible]	(5) [illegible]	[illegible]	69	[illegible]	[illegible]	96	29.54			
Stop	2.0	[illegible]	[illegible]		[illegible]	[illegible]	100		[illegible]	0.992	0.1248
Start		[illegible]	[illegible]	[illegible]		[illegible]	97	[illegible]			
Average	[illegible]	(10) [illegible]	10.51	69	102	95	[illegible]	29.54			
Stop	3.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103		[illegible]	0.992	[illegible]
Start			[illegible]		[illegible]		[illegible]	[illegible]			
Average	[illegible]	(10) [illegible]	[illegible]	[illegible]	[illegible]	97	102	[illegible]			
Stop	4.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103		[illegible]	0.998	[illegible]
Start		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103	[illegible]			
Average	[illegible]	(10) 10.00	[illegible]	[illegible]	[illegible]	[illegible]	103	[illegible]			
Stop	5.0	[illegible]			[illegible]	[illegible]	[illegible]		[illegible]	0.995	.12339
Start			[illegible]				[illegible]	[illegible]			
Average	[illegible]	(10) [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
									AVERAGE	0.993	0.12553

$P_w = P_b - \frac{P_w}{13.6}$ $P_d = P_b + \frac{\Delta m}{13.6}$ $K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w \Delta m}}$

$\gamma = \frac{V_w P_w (t_d + 460)}{V_d P_d (t_w + 460)}$ Factor in isokinetic equation $= \frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad\gamma)} =$ 1.139

Date 5/13/75 Client Fkcm Rochester N.Y.

Barometri- Pressure Pb ("Hg) 29.30 Calibrator G.Elk Gas Meter Number

RAC 2

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft^3)	Gas Volume Dry Gas Meter V_d (ft^3)	Temperature				Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
				Wet Test Meter t_w (°F)	Dry Gas Meter						
					Inlet t_{di} (°F)	Outlet t_{do} (°F)	Average t_d (°F)				
Stop	0.5	1475.00	046.824	75°	98°	95°			12.68	0.991	.13048
Start		1470.00	041.600	75°	104°	95°		.10	12.41		
Average	29.34	(5) 5.00	5.224	75			98	29.29			
Stop	1.0	1480.00	052.033	75°	96°	92°			9.13	0.991	.12814
Start		1475.00	046.824	75°	96°	92°		.10	9.08		
Average	29.37	(5) 5.00	5.209	75			94	29.29			
Stop	2.0	1490.00	062.413	75°	104°	92°			12.98	0.996	.12747
Start		1480.00	052.033	75°	98°	92°		.10	12.59		
Average	29.45	(10) 10.00	10.380	75			96	29.29			
Stop	3.0	1500.00	072.803	75°	108°	92°			10.73	0.998	.12590
Start		1490.00	062.413	75°	104°	92°		.12	10.44		
Average	29.52	(10) 10.00	10.390	75			99	29.29			
Stop	4.0	1510.00	083.197	75°	110°	94°			9.31	0.999	.12486
Start		1500.00	072.803	75°	108°	92°		.12	9.22		
Average	29.59	(10) 10.00	10.394	75			101	29.29			
Stop	5.0	1520.00	093.593	75°	110°	94°			8.40	0.998	.12451
Start		1510.00	083.197	75	110°	94°		.15	8.24		
Average	29.67	(10) 10.00	10.396	75			102	29.29			
									AVERAGE	0.996	0.12690

$P_w = P_b - \frac{P_w}{13.6}$ $P_d = P_b + \frac{\Delta m}{13.6}$ $K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w \Delta m}}$

$\gamma = \frac{V_w P_w (t_d + 460)}{V_d P_d (t_w + 460)}$ Factor in isokinetic equation $= \frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2} = 1701$

Date 5/28/75 Client EPA Task 16 Granite City Meter Box Number

Barometric Pressure Pb ("Hg) Calibrator Gas Meter Number RAC 3

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft^3)	Gas Volume Dry Gas Meter V_d (ft^3)	Temperature Wet Test Meter t_w (°F)	Temperature Dry Gas Meter Inlet t_{di} (°F)	Temperature Dry Gas Meter Outlet t_{do} (°F)	Temperature Dry Gas Meter Average t_d (°F)	Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
Stop	0.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103		13.45 [illegible]		
Start		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103				
Average	[illegible]	(5) 5.00	5.41	71	106	100	102	29.54		0.978	0.12400
Stop	1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	104		4.50 7		
Start		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103	[illegible]			
Average	[illegible]	(5) 5.00	5.363	[illegible]	[illegible]	[illegible]	104	29.57		0.986	.12407
Stop	2.0	[illegible]	[illegible]	[illegible]	[illegible]		100		3.50 [illegible]		
Start		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	100	[illegible]			
Average	29.10	(10) [illegible]	[illegible]	72	102	98	[illegible]	[illegible]		1.005	.12342
Stop	3.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	102		10.58 [illegible]		
Start		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	100	[illegible]			
Average	[illegible]	(10) [illegible]	10.472	72	[illegible]	97	102	[illegible]		1.001	.12504
Stop	4.0	[illegible]	[illegible]		114	96°	105	.15	7.57 7.30		
Start		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103	[illegible]			
Average	[illegible]	(10) [illegible]	[illegible]	[illegible]	112	[illegible]	[illegible]	[illegible]		0.995	.12311
Stop	5.0	[illegible]	[illegible]		[illegible]	[illegible]	105		[illegible]		
Start		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	105	[illegible]			
Average	[illegible]	(10) 10.00	[illegible]	72	111	96	105	[illegible]		0.992	.12155
									AVERAGE	0.993	.12352

$P_w = P_b - \frac{P_w}{13.6}$ $P_d = P_b + \frac{\Delta m}{13.6}$ $K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w \Delta m}}$

$\gamma = \frac{V_w P_w (t_d + 460)}{V_d P_d (t_w + 460)}$ **Factor in isokinetic equation** $= \frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2} =$ 1796 ate 5/11/75 Client [illegible] Meter Box Number

arometric Pressure Pb ("Hg) 29.25 Calibrator G.E.H. Gas Meter Number —

12AC # 3

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft^3)	Gas Volume Dry Gas Meter V_d (ft^3)	Temperature: Wet Test Meter t_w (°F)	Temperature: Dry Gas Meter Inlet t_{di} (°F)	Temperature: Dry Gas Meter Outlet t_{do} (°F)	Temperature: Dry Gas Meter Average t_d (°F)	Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
Stop	0.5	1575.00	753.284		96°	94°			12.88 12.53	0.989	.12593
Start		1570.00	748.000	71°	100°	94°		.08			
verage	29.29	(5) 5.00	5.284				96°	29.24			
Stop	1.0	1580.00	758.570		96°	90°			9.13 9.08	0.984	.12551
Start		1575.00	753.284	71°	96°	94°		.10			
verage	29.32	(5) 5.00	5.286				94	29.24			
Stop	2.0	1590.00	769.004		100°	90°			13.38 13.23	0.994	.12401
Start		1580.00	758.570	71°	96°	90		.10			
verage	29.40	(10) 10.00	10.434				94	29.24			
Stop	3.0	1600.00	779.446		102°	90°			10.90 10.54	0.995	.12430
Start		1590.00	769.004	71	100°	90°		.10			
verage	29.17	(10) 10.00	10.442				96	29.24			
Stop	4.0	1610.00	789.863		106°	90°			9.50 9.30	0.997	.12351
Start		1600.00	779.446	71°	102°	90°.		.15			
verage	29.51	(10) 10.00	10.417				97	29.24			
Stop	5.0	1620.00	800.268		108°	90°			8.55 8.33	0.997	0.12274
Start		1610.00	789.863	71°	106°	90°		.20			
verage	29.62	(10) 10.00	10.405				98	29.24			
									AVERAGE	0.993	0.12537

$P_w = P_b - \frac{P_w}{13.6}$ $P_d = P_b + \frac{\Delta m}{13.6}$ $K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w \Delta m}}$

$\gamma = \frac{V_w P_w (t_d + 460)}{V_d P_d (t_w + 460)}$

Factor in isokinetic equation = $\frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2}$ = 1745

Date 5/27 [illegible] Client [illegible] Meter Box Number

Barometric ressure Pb ("Hg) 29.42 Calibrator G.E.H. Gas Meter Number RAC-4

POST

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft^3)	Gas Volume Dry Gas Meter V_d (ft^3)	Temperature				Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
				Wet Test Meter t_w (°F)	Dry Gas Meter						
					Inlet t_{di} (°F)	Outlet t_{do} (°F)	Average t_d (°F)				
Stop	0.5	1000.00	408.222								
Start		0995.00	403.000	65°	55°	86°		.08	12.43		
Average	29.46	(5) 5.00	5.222	68			91	29.41	12.35	0.990	0.13213
Stop	1.0	1005.00	413.457								
Start		1000.00	408.222	67°	90°	80°		.10			
Average	29.49	(5) 5.00	5.235	[illegible]			83	29.41	9.00	0.957	0.13099
Stop	2.0	1015.00	423.955	68°	98°	90°	94				
Start		1005.00	413.457	68°	94°	88°	91	.10	13.20		
Average	29.57	(10) 10.00	10.498	68	96	89	92.	29.41	13.12	0.990	0.12645
Stop	3.0	1025.00	434.458	69	104°	92°	98				
Start		1015.00	423.955	69	100°	90°	95	.10	[illegible]		
Average	29.64	(10) 10.00	10.503	69	102	91	96	29.41	10.41	0.993	0.12796
Stop	4.0	1035.00	444.965	69	104	94°	99				
Start		1025.00	434.458	69	104°	92°	98	.12	[illegible]		
Average	29.71	(10) 10.00	10.507	69	104	93	98	29.41	9.27	0.994	0.12495
Stop	5.0	1045.00	455.478	69°	104	94°	[illegible]				
Start		1035.00	444.965	69	104°	94°	[illegible]	.18	[illegible]		
Average	29.79	(10) 10.00	10.513	69		[illegible]	[illegible]	29.41	5.33	0.992	0.12333
									AVERAGE	0.991	.12[illegible]2

$$P_w = P_b - \frac{P_w}{13.6} \qquad P_d = P_b + \frac{\Delta m}{13.6} \qquad K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w\,\Delta m}}$$

$$\gamma = \frac{V_w\,P_w\,(t_d + 460)}{V_d\,P_d\,(t_w + 460)}$$

Factor in isokinetic equation $= \frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2} =$ 1685

Date 8/13/75 Client [illegible] N Y Meter Box Number ____
Barometric Pressure Pb ("Hg) 29.28 Calibrator G.EH. Gas Meter Number ____

RAC #4

	Orifice Manometer Setting, Δm (in. H_2O)	Gas Volume Wet Test Meter V_w (ft^3)	Gas Volume Dry Gas Meter V_d (ft^3)	Temperature				Vacuum Wet Test Meter P_w (in. H_2O)	Time θ (min)	γ	K_m
				Wet Test Meter t_w (°F)	Dry Gas Meter Inlet t_{di} (°F)	Dry Gas Meter Outlet t_{do} (°F)	Dry Gas Meter Average t_d (°F)				
Stop	0.5	1525.00	005.053								
Start		1520.00	000.000	72°	84°	88°		.08	12.35	1.014	.13430
Average	29.32	(5) 5.00	5.053				86	29.27	12.21		
Stop	1.0	1530.00	010.108		84°	88°					
Start		1525.00	005.053	72°	84	88°		.10	8.97	1.012	.13075
Average	29.35	(5) 5.00	5.055				86	29.27	8.58		
Stop	2.0	1540.00	020.230		90°	88°					
Start		1530.00	010.108	72°	84°	88°		.10	13.05	1.012	.12710
Average	29.43	(10) 10.00	10.122				88	29.27	13.03		
Stop	3.0	1550.00	030.387		92°	86					
Start		1540.00	020.230	73°	90°	88°		.12	10.71	1.006	.12562
Average	[illegible]	(10) 10.00	10.157				89	29.27	10.46		
Stop	4.0	1560.00	040.542		94°	88°					
Start		1550.00	030.387	73°	72°	86°		.15	9.37	1.006	.12505
Average	29.57	(10) 10.00	10.155				90	29.27	9.22		
Stop	5.0	1570.00	050.725		96°	88°					
Start		1560.00	040.542	73°	94°	88°		.15	8.53	1.004	.12286
Average	29.65	(10) 10.00	10.183				92	29.27	8.32		
									AVERAGE	1.009	0.12761

$$P_w = P_b - \frac{P_w}{13.6} \qquad P_d = P_b + \frac{\Delta m}{13.6} \qquad K_m = \frac{V_w}{\theta}\sqrt{\frac{P_w}{T_w\,\Delta m}}$$

$$\gamma = \frac{V_w\,P_w\,(t_d + 460)}{V_d\,P_d\,(t_w + 460)}$$

Factor in isokinetic equation $= \frac{27.40}{(K_m)^2} = \frac{27.40}{(\quad)^2} =$ 1683

PITOT TUBE CALIBRATION

PITOT TUBE TYPE S PITOT TUBE NO. 10

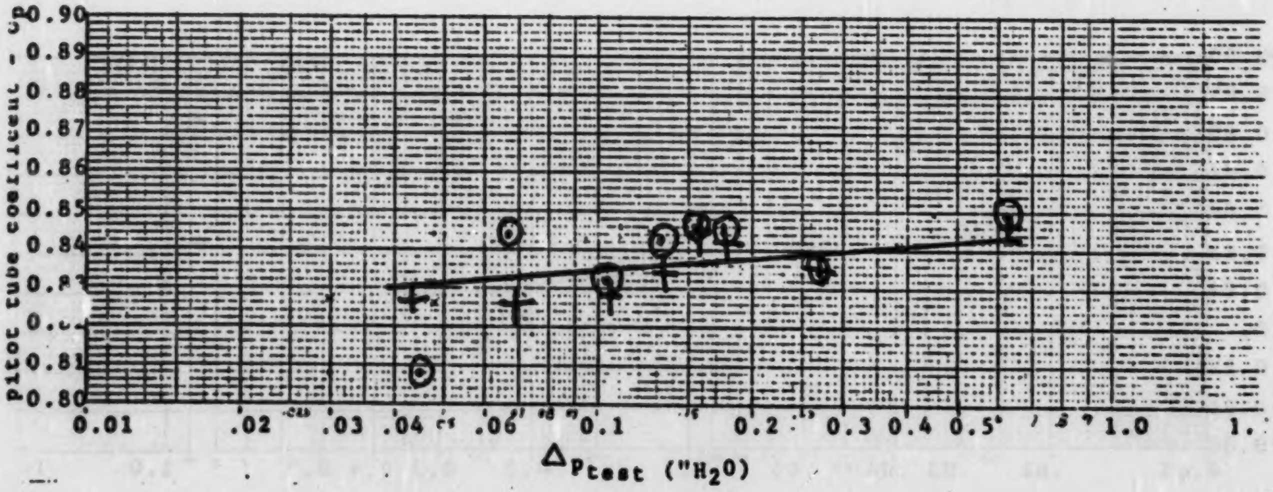
STANDARD PITOT TUBE NO. 160-18

$$C_{p_{test}} = 0.99\sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

CALIBRATED BY: R.J. Griffin

DATE: 4/4/75

CLIENT:	post Rochester A side (◎)			TO FORD B side (✱)					
ΔP_{std}	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$
0.02	0.030	0.045	0.808	0.030	0.043	0.827	0.	0.	0.
0.04	0.048	0.066	0.844	0.048	0.069	0.826	0.	0.	0.
0.06	0.072	0.102	0.832	0.072	0.103	0.828	0.	0.	0.
0.08	0.095	0.131	0.843	0.095	0.134	0.834	0.	0.	0.
0.10	0.111	0.152	0.846	0.111	0.153	0.843	0.	0.	0.
0.12	0.126	0.173	0.845	0.126	0.174	0.842	0.	0.	0.
0.16	0.192	0.270	0.835	0.192	0.270	0.835	0.	0.	0.
0.20	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.30	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.50	0.456	0.620	0.849	0.456	0.625	0.846	0.	0.	0.
0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.



PITOT TUBE CALIBRATION

$$C_{ptest} = 0.99\sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

PITOT TUBE TYPE S PITOT TUBE NO. 1C

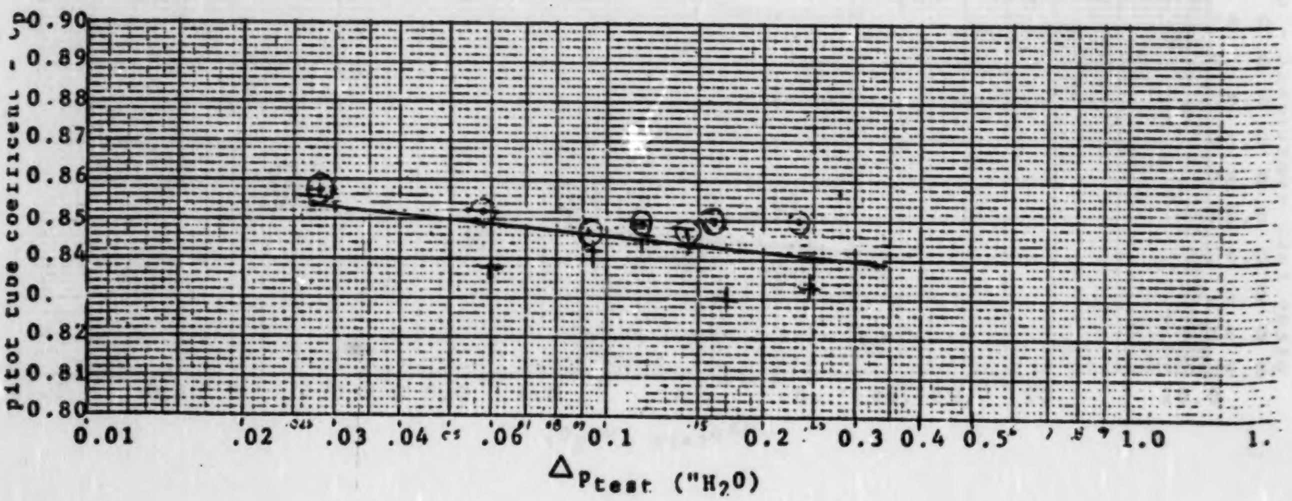
STANDARD PITOT TUBE NO. 160-18

CALIBRATED BY: R.J. Griffin

DATE: 4/16/75

CLIENT: post Ford Motor Co.

	A side ⊙			B side +					
ΔP_{std}	ΔP_{std}	ΔP_{test}	C_{ptest}	ΔP_{std}	ΔP_{test}	C_{ptest}	ΔP_{std}	ΔP_{test}	C_{ptes}
0.02	0.021	0.028	0.857	0.021	0.028	0.857	0.	0.	0.
0.04	0.043	0.058	0.852	0.043	0.060	0.838	0.	0.	0.
0.06	0.068	0.093	0.847	0.068	0.094	0.842	0.	0.	0.
0.08	0.086	0.117	0.849	0.086	0.118	0.845	0.	0.	0.
0.10	0.104	0.142	0.847	0.104	0.143	0.844	0.	0.	0.
0.12	0.118	0.160	0.850	0.118	0.168	0.830	0.	0.	0.
0.16	0.174	0.236	0.850	0.174	0.246	0.833	0.	0.	0.
0.20	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.30	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.50	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.



PITOT TUBE CALIBRATION

$$C_{P_{test}} = 0.99\sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

PITOT TUBE TYPE S PITOT TUBE NO. 10

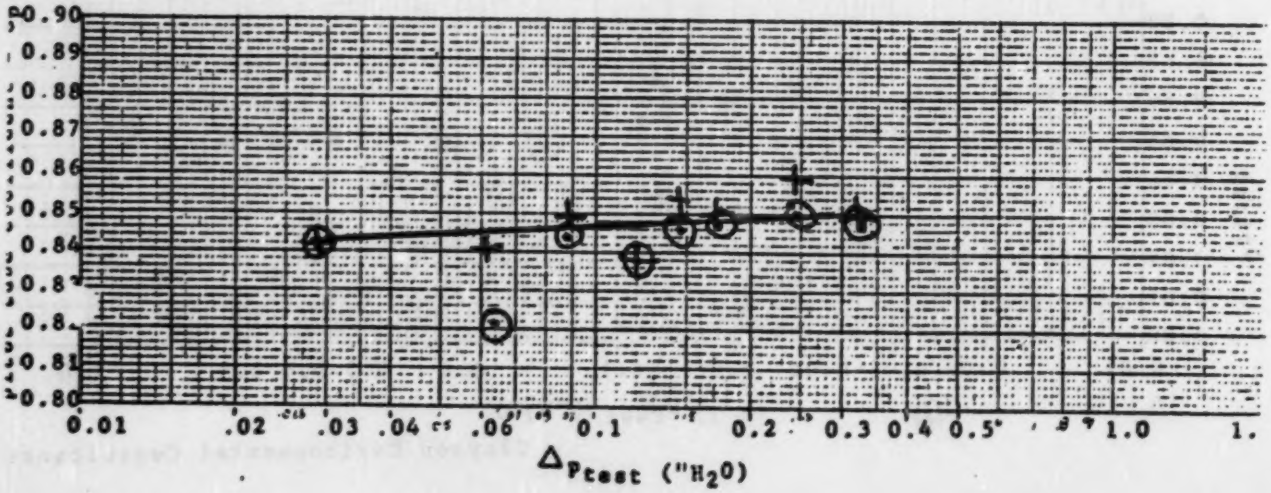
STANDARD PITOT TUBE NO. 160-18

CALIBRATED BY: R.J. Griffin

DATE: 5/29/75

CLIENT: post - Granite City Steel EPA Task 16 | [illegible]

	Side A ⊙			Side B +					
ΔP_{std}	ΔP_{std}	ΔP_{test}	$C_{P_{test}}$	ΔP_{std}	ΔP_{test}	$C_{P_{test}}$	ΔP_{std}	ΔP_{test}	$C_{P_{tes}}$
0.02	0.021	0.029	0.842	0.021	0.029	0.842	0.	0.	0.
0.04	0.044	0.064	0.821	0.044	0.061	0.841	0.	0.	0.
0.06	0.064	0.088	0.844	0.064	0.087	0.849	0.	0.	0.
0.08	0.086	0.120	0.838	0.086	0.120	0.838	0.	0.	0.
0.10	0.108	0.148	0.846	0.108	0.145	0.854	0.	0.	0.
0.12	0.126	0.172	0.847	0.126	0.171	0.850	0.	0.	0.
0.16	0.183	0.248	0.850	0.183	0.243	0.859	0.	0.	0.
0.20	0.239	0.326	0.848	0.239	0.324	0.850	0.	0.	0.
0.30	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.50	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.



PITOT TUBE CALIBRATION

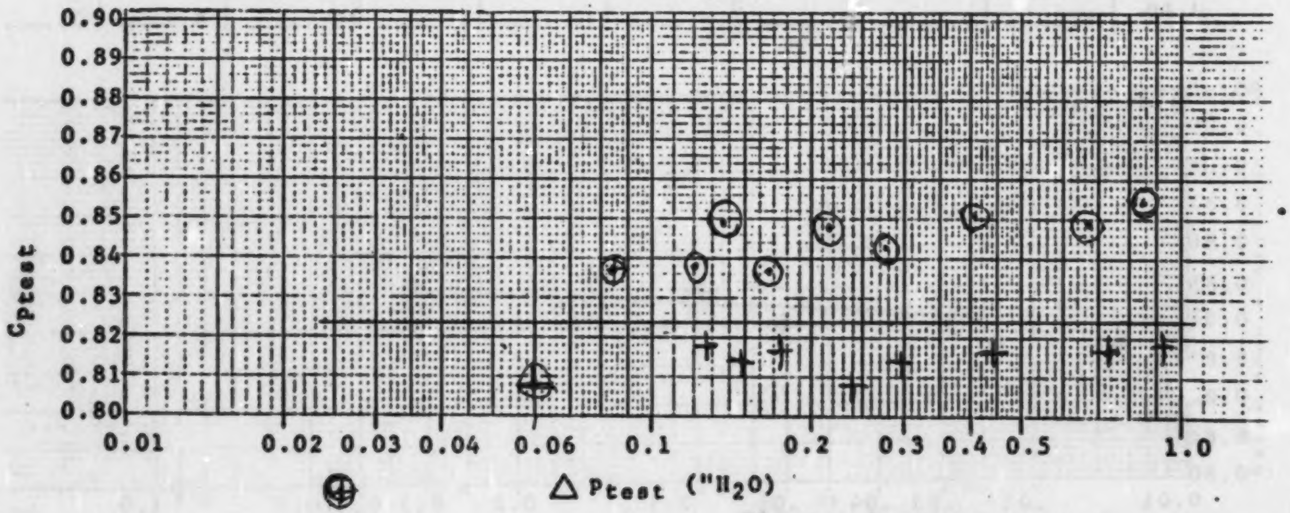
$$C_{ptest} = 0.99\sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

Pitot Tube Type S Pitot Tube No. 11

Standard Pitot Tube No.

Calibrator: GEH Date: 9/17/75 Client: Ford Motor Co.
PARTICAL ANALYSIS

Anticipated ΔP_{std}	ΔP_{std}	A ⊙		B +	
		ΔP_{test}	ΔC_{ptest}	ΔP_{test}	ΔC_{ptest}
0.02	0.016	0.026	0.777	0.026	0.777
0.04	0.040	0.060	0.808	0.060	0.808
0.06	0.060	0.084	0.837	0.084	0.837
0.08	0.086	0.120	0.838	0.126	0.818
0.10	0.100	0.136	0.849	0.148	0.814
0.12	0.120	0.168	0.837	0.176	0.817
0.16	0.160	0.218	0.848	0.240	0.808
0.20	0.200	0.276	0.843	0.296	0.814
0.30	0.300	0.406	0.851	0.442	0.816
0.50	0.496	0.674	0.849	0.728	0.817
0.70	0.632	0.850	0.854	0.926	0.818
0.80	0.	0.	0.	0.	0.



PITOT TUBE CALIBRATION

PITOT TUBE TYPE S PITOT TUBE NO. 12

STANDARD PITOT TUBE NO.

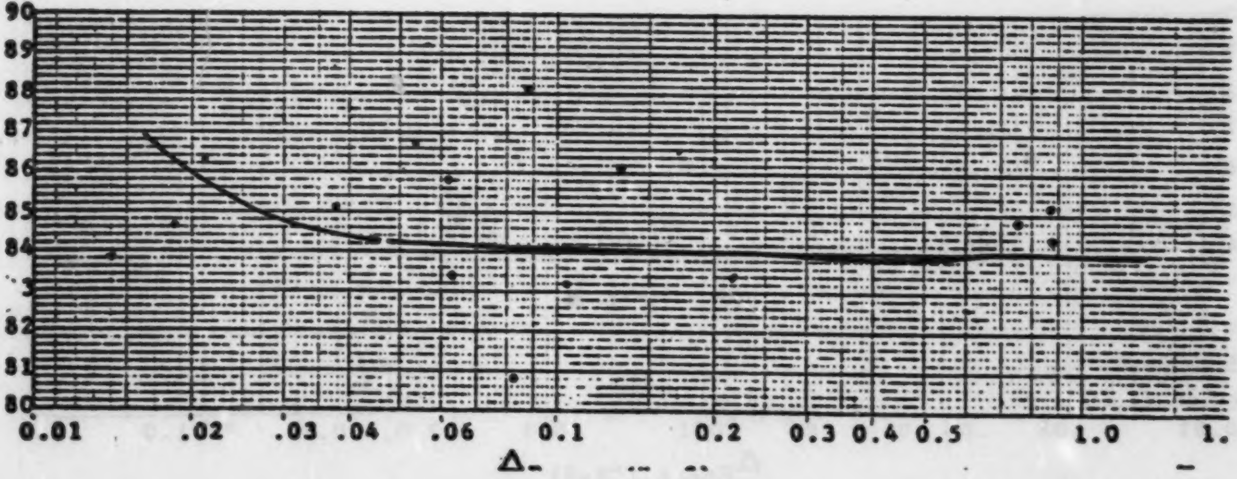
$$C_{p_{test}} = 0.99\sqrt{\frac{\Delta p_{std}}{\Delta p_{test}}}$$

LIBRATED BY: R. Keller

TE: 11-25-74

IENT:

Pstd	Δp_{std}	Δp_{test}	$C_{p_{test}}$	Δp_{std}	Δp_{test}	$C_{p_{test}}$	Δp_{std}	Δp_{test}	$C_{p_{tes}}$
0.02	0.	0.0144	0.8397	0.	0.7273	0.8488	0.	0.	0.
0.04	0.	0.0186	0.8462	0.	0.8890	0.8427	0.	0.	0.
0.06	0.	0.0212	0.8630	0.	0.8752	0.8519	0.	0.	0.
0.08	0.	0.0379	0.8501	0.	0.	0.	0.	0.	0.
0.10	0.	0.0470	0.8668	0.	0.	0.	0.	0.	0.
0.12	0.	0.0616	0.8324	0.	0.	0.	0.	0.	0.
0.16	0.	0.0631	0.8582	0.	0.	0.	0.	0.	0.
0.20	0.	0.0820	0.8082	0.	0.	0.	0.	0.	0.
0.30	0.	0.0871	0.8213	0.	0.	0.	0.	0.	0.
0.50	0.	0.1044	0.8312	0.	0.	0.	0.	0.	0.
0.70	0.	0.1364	0.8612	0.	0.	0.	0.	0.	0.
0.80	0.	0.2168	0.8320	0.	0.	0.	0.	0.	0.



PITOT TUBE CALIBRATION

$$C_{p_{test}} = 0.99\sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

PITOT TUBE TYPE S PITOT TUBE NO. 16

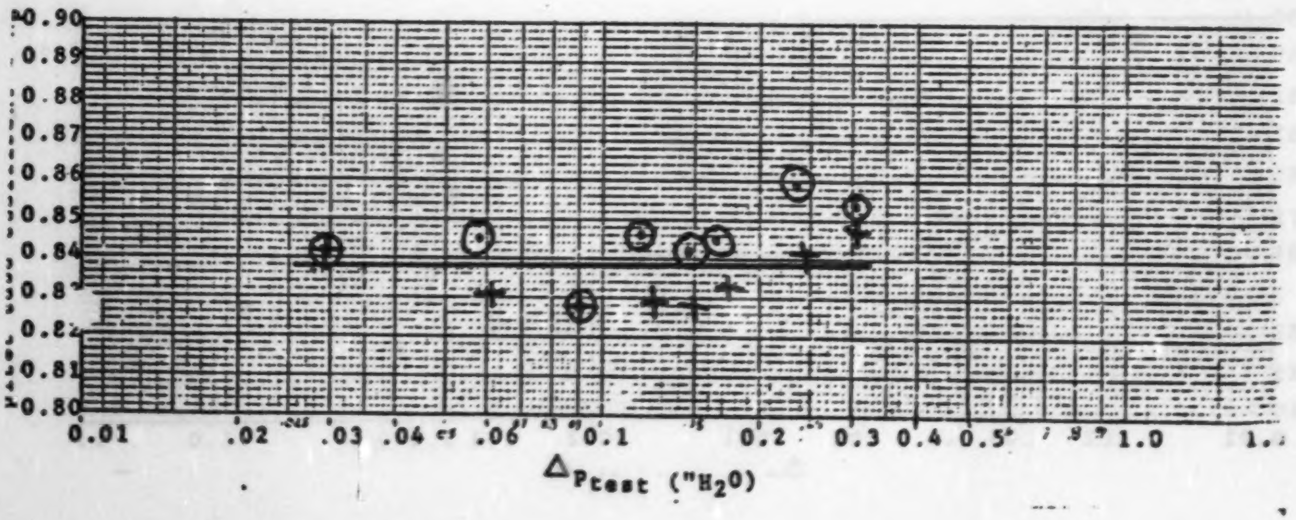
STANDARD PITOT TUBE NO. 160-18

CALIBRATED BY: R.J. Griffin

DATE: 5/29/75

CLIENT: Post-Granite City Steel EPA Task 16 | [illegible]

	Side A ⊙			Side B +					
ΔP_{std}	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$
0.02	0.021	0.029	0.842	0.021	0.029	0.842	0.	0.	0.
0.04	0.043	0.059	0.845	0.043	0.061	0.831	0.	0.	0.
0.06	0.063	0.090	0.828	0.063	0.088	0.838	0.	0.	0.
0.08	0.087	0.119	0.846	0.087	0.124	0.829	0.	0.	0.
0.10	0.105	0.145	0.842	0.105	0.150	0.828	0.	0.	0.
0.12	0.121	0.166	0.845	0.121	0.171	0.833	0.	0.	0.
0.16	0.177	0.235	0.859	0.177	0.245	0.841	0.	0.	0.
0.20	0.226	0.304	0.854	0.226	0.309	0.847	0.	0.	0.
0.30	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.50	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.



$P_b = 29.74$

PITOT TUBE CALIBRATION

PITOT TUBE TYPE S PITOT TUBE NO. #18

STANDARD PITOT TUBE NO. 160-18

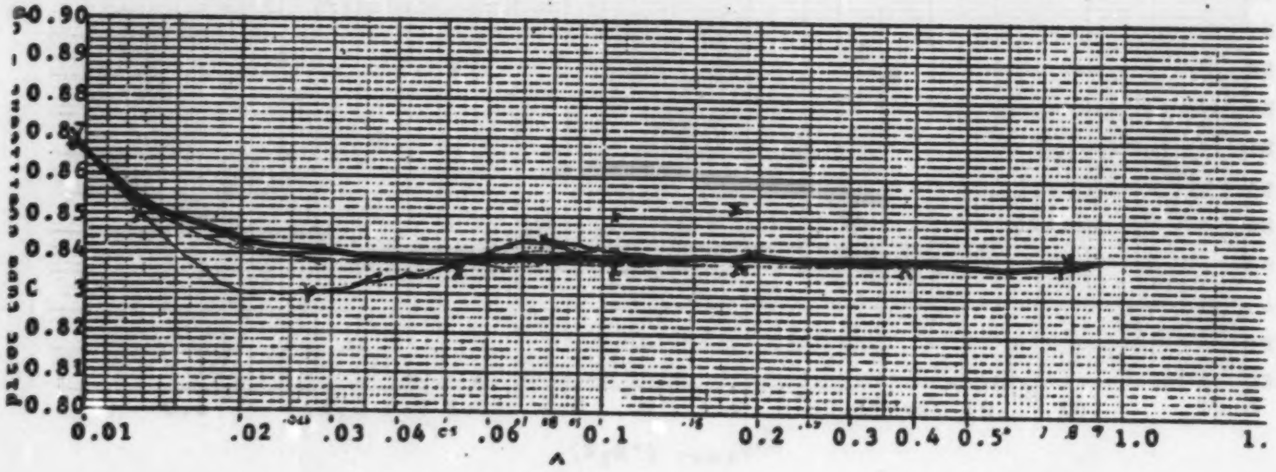
$$C_{p_{test}} = 0.99\sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

CALIBRATED BY: [illegible]

DATE: 11/9/74

CLIENT: TOOCF [illegible]

ΔP_{std}	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$
0.02	0.005	0.0064	0.875	0.	0.	0.	0.	0.	0.
0.04	0.007	0.0090	0.873	0.	0.	0.	0.	0.	0.
0.06	0.0092	0.0120	0.867	0.	0.	0.	0.	0.	0.
0.08	0.037	0524 0.~~[illegible]~~	0.836	0.	0.	0.	0.	0.	0.
0.10	0.0186	261 0.~~[illegible]~~	0.830	0.	0.	0.	0.	0.	0.
0.12	0.0890	122 0.~~[illegible]~~	0.850	0.	0.	0.	0.	0.	0.
0.16	0.057	0.0784	0.844	0.	0.	0.	0.	0.	0.
0.20	0.076	0.106	0.838	0.	0.	0.	0.	0.	0.
0.30	0.136	0.183	0.853	0.	0.	0.	0.	0.	0.
0.50	0.132	0.184	0.838	0.	0.	0.	0.	0.	0.
0.70	0.274	0.382	0.838	0.	0.	0.	0.	0.	0.
0.80	0.570	0.792	0.840	0.	0.	0.	0.	0.	0.



PITOT TUBE CALIBRATION

PITOT TUBE TYPE S PITOT TUBE NO. 18

STANDARD PITOT TUBE NO. 160-18

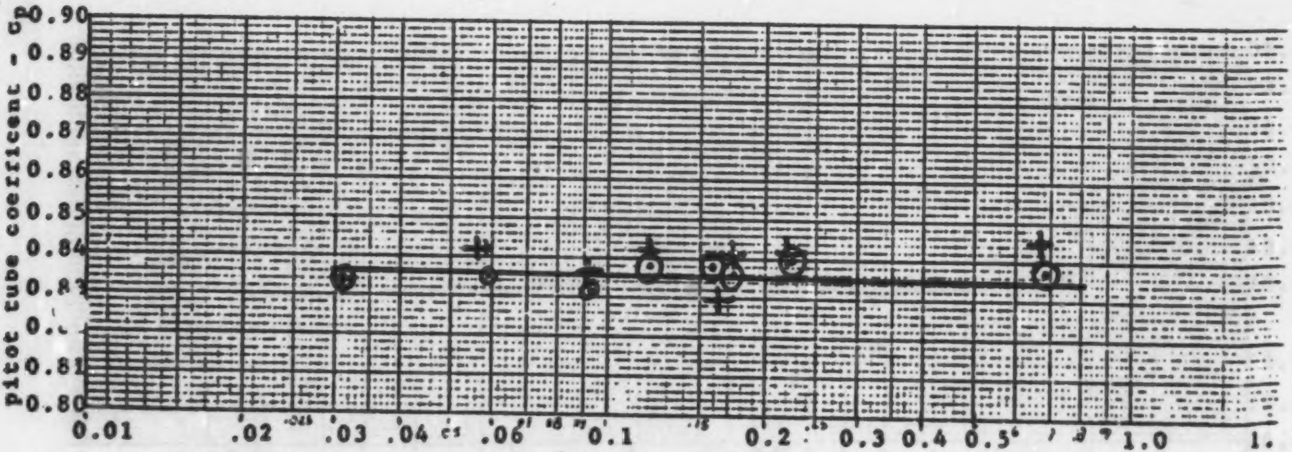
$$C_{p_{test}} = 0.99\sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

CALIBRATED BY: R.J. Griffin

DATE: 4/4/75

CLIENT: post- Rochester

	post- Rochester A-side ⊙			TO FORD B-side +					
ΔP_{std}	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{tes}}$
0.02	0.022	0.031	0.834	0.022	0.031	0.834	0.___	0.___	0.___
0.04	0.042	0.059	0.835	0.042	0.058	0.842	0.___	0.___	0.___
0.06	0.065	0.092	0.832	0.065	0.091	0.837	0.___	0.___	0.___
0.08	0.086	0.120	0.838	0.086	0.119	0.842	0.___	0.___	0.___
0.10	0.114	0.159	0.838	0.114	0.162	0.830	0.___	0.___	0.___
0.12	0.124	0.173	0.838	0.124	0.172	0.841	0.___	0.___	0.___
0.16	0.162	0.225	0.840	0.162	0.224	0.842	0.___	0.___	0.___
0.20	0.___	0.___	0.___	0.___	0.___	0.___	0.___	0.___	0.___
0.30	0.___	0.___	0.___	0.___	0.___	0.___	0.___	0.___	0.___
0.50	0.488	0.682	0.837	0.488	0.670	0.845	0.___	0.___	0.___
0.70	0.___	0.___	0.___	0.___	0.___	0.___	0.___	0.___	0.___
0.80	0.___	0.___	0.___	0.___	0.___	0.___	0.___	0.___	0.___



PITOT TUBE CALIBRATION

$$C_{p_{test}} = 0.99\sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

PITOT TUBE TYPE S **PITOT TUBE NO.** 18

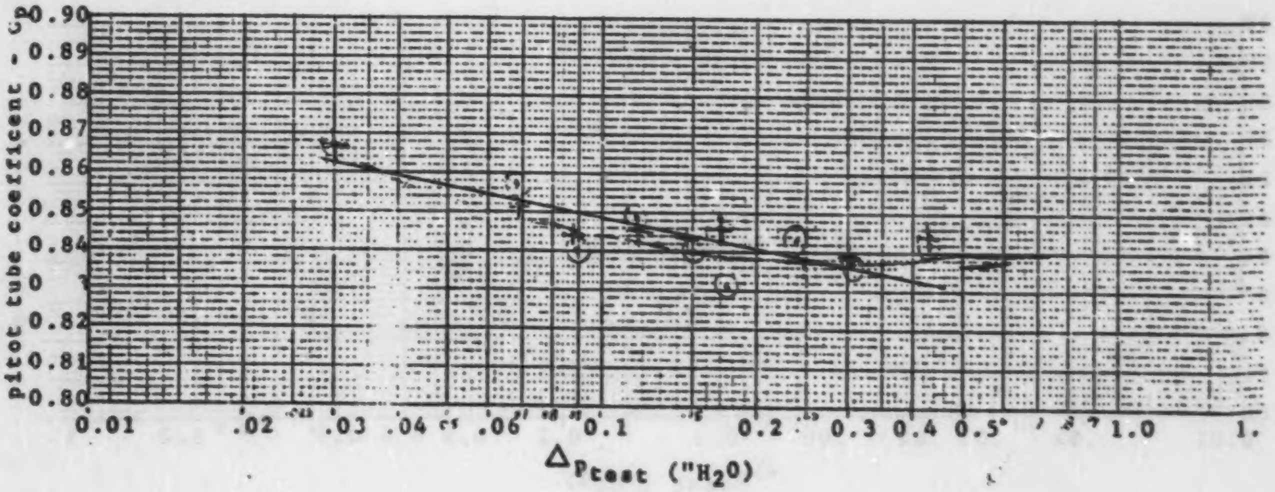
STANDARD PITOT TUBE NO. 160-18

CALIBRATED BY: R. J. Griffin

DATE: 4/16/75

CLIENT: post- Ford Motor Co.

	A side ⊙			B side +					
ΔP_{std}	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{test}}$	ΔP_{std}	ΔP_{test}	$C_{p_{tes}}$
0.02	0.023	0.030	0.867	0.023	0.030	0.867	0.	0.	0.
0.04	0.051	0.068	0.857	0.051	0.069	0.851	0.	0.	0.
0.06	0.064	0.089	0.840	0.064	0.088	0.844	0.	0.	0.
0.08	0.086	0.117	0.849	0.086	0.118	0.845	0.	0.	0.
0.10	0.108	0.150	0.840	0.108	0.149	0.843	0.	0.	0.
0.12	0.124	0.176	0.831	0.124	0.170	0.846	0.	0.	0.
0.16	0.174	0.240	0.843	0.174	0.243	0.838	0.	0.	0.
0.20	0.216	0.302	0.837	0.216	0.301	0.839	0.	0.	0.
0.30	0.314	0.434	0.842	0.314	0.432	0.844	0.	0.	0.
0.50	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.



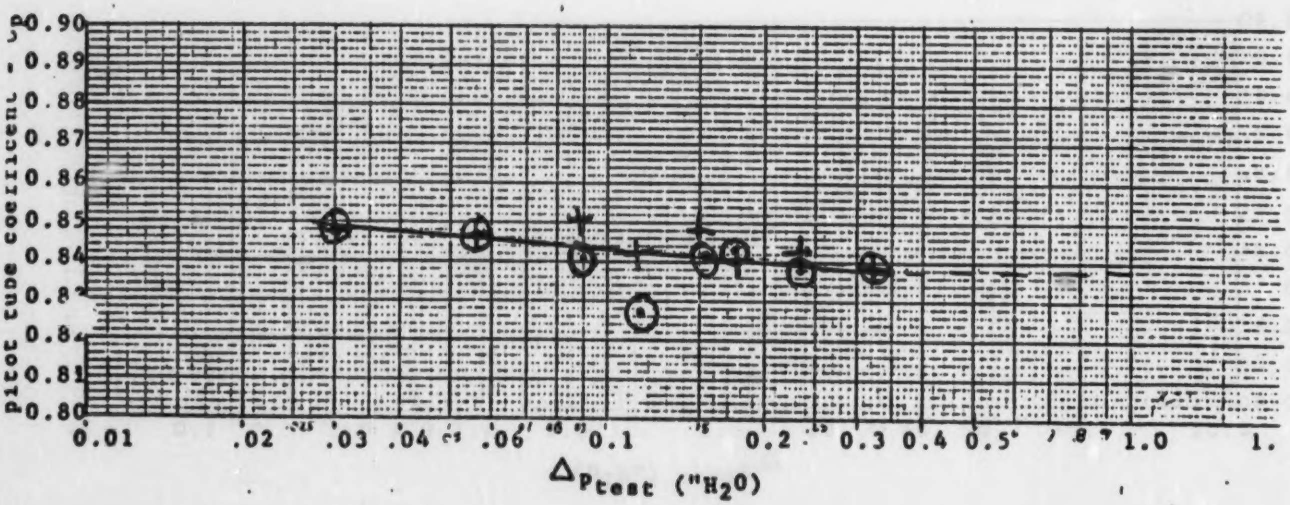
PITOT TUBE CALIBRATION

$C_{p_{test}} = 0.99\sqrt{\frac{\Delta p_{std}}{\Delta p_{test}}}$

PITOT TUBE TYPE S **PITOT TUBE NO.** 18

STANDARD PITOT TUBE NO. 160-18

CALIBRATED BY:	R.J. Griffin								
DATE:	5/28/75								
CLIENT:	post Granite City Steel EPA Task 16 ⊙ side A			P.-E F(?) side B +					
Δp_{std}	**Δp_{std}**	**Δp_{test}**	**$C_{p_{test}}$**	**Δp_{std}**	**Δp_{test}**	**$C_{p_{test}}$**	**Δp_{std}**	**Δp_{test}**	**$C_{p_{test}}$**
0.02	0.022	0.030	0.848	0.022	0.030	0.848	0.	0.	0.
0.04	0.041	0.056 ~~[illegible]~~	0.847 ~~[illegible]~~	0.041	0.056	0.847	0.	0.	0.
0.06	0.065	0.090	0.841	0.065	0.088	0.851	0.	0.	0.
0.08	0.080	0.116	0.827	0.080	0.112	0.842	0.	0.	0.
0.10	0.110	0.152	0.842	0.110	0.150	0.848	0.	0.	0.
0.12	0.127	0.175	0.843	0.127	0.176	0.841	0.	0.	0.
0.16	0.169	0.236	0.838	0.169	0.233	0.843	0.	0.	0.
0.20	0.231	0.322	0.839	0.231	0.322	0.839	0.	0.	0.
0.30	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.50	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.



PITOT TUBE CALIBRATION

PITOT TUBE TYPE S **PITOT TUBE NO.** 19

STANDARD PITOT TUBE NO. 160-18

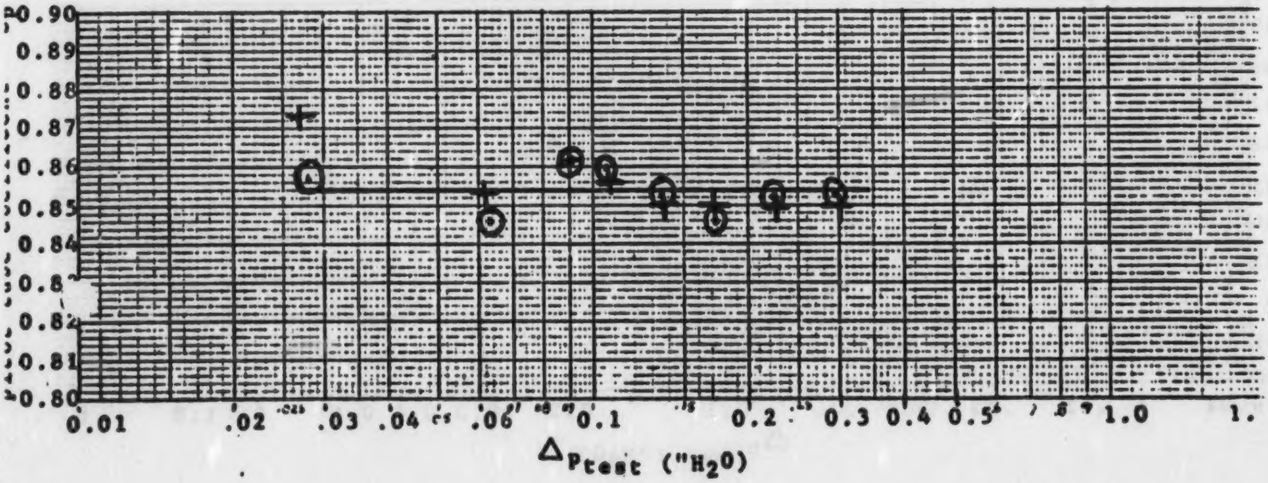
$$C_{P_{test}} = 0.99 \sqrt{\frac{\Delta P_{std}}{\Delta P_{test}}}$$

CALIBRATED BY: R. J. Griffin

DATE: 5/4/75

CLIENT: post - Pontiac Motors | DRC Ft. Pt.

	A side ⊙			B side +					
ΔP_{std}	ΔP_{std}	ΔP_{test}	$C_{P_{test}}$	ΔP_{std}	ΔP_{test}	$C_{P_{test}}$	ΔP_{std}	ΔP_{test}	$C_{P_{test}}$
0.02	0.021	0.028	0.857	0.021	0.027	0.873	0.	0.	0.
0.04	0.046	0.063	0.845	0.046	0.062	0.853	0.	0.	0.
0.06	0.068	0.090	0.861	0.068	0.090	0.861	0.	0.	0.
0.08	0.080	0.106	0.860	0.080	0.107	0.856	0.	0.	0.
0.10	0.101	0.136	0.853	0.101	0.137	0.850	0.	0.	0.
0.12	0.126	0.172	0.847	0.126	0.171	0.850	0.	0.	0.
0.16	0.165	0.223	0.852	0.165	0.224	0.850	0.	0.	0.
0.20	0.221	0.298	0.853	0.221	0.300	0.850	0.	0.	0.
0.30	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.50	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.



PITOT TUBE CALIBRATION

PITOT TUBE TYPE S **PITOT TUBE NO.** 31

STANDARD PITOT TUBE NO. 160-18

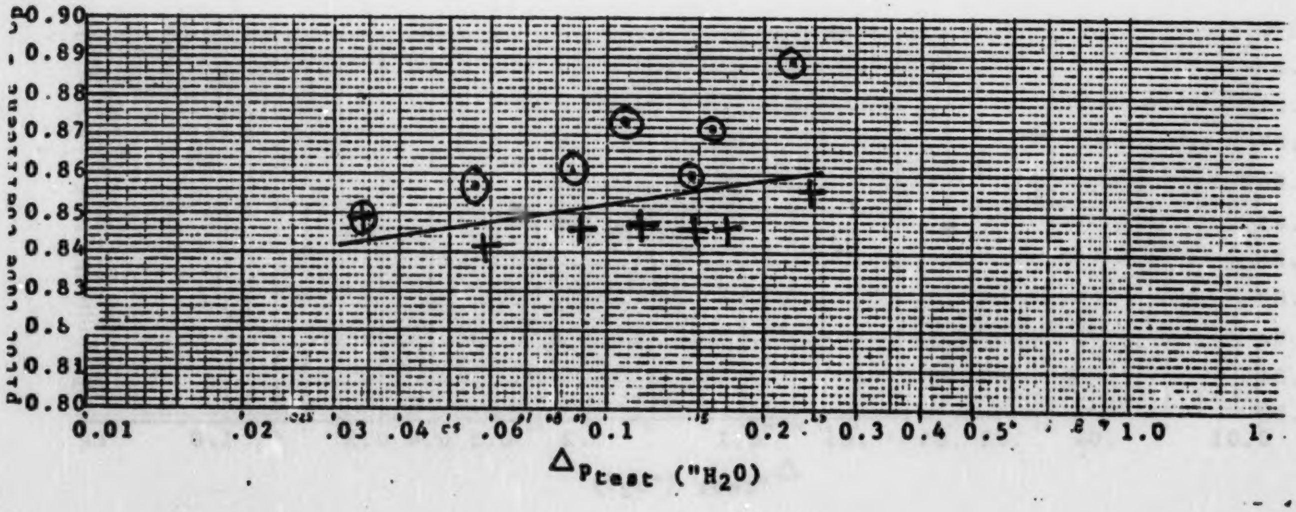
$$C_{p_{test}} = 0.99\sqrt{\frac{\Delta p_{std}}{\Delta p_{test}}}$$

CALIBRATED BY: R. J. Griffin

DATE: 5/29/75

CLIENT: post- Granite City Steel EPA Task 16 | PNF .Fe

	● Side A ⊙			Side B +					
Δp_{std}	Δp_{std}	Δp_{test}	$C_{p_{test}}$	Δp_{std}	Δp_{test}	$C_{p_{test}}$	Δp_{std}	Δp_{test}	$C_{p_{test}}$
0.02	0.025	0.034	0.849	0.025	0.034	0.849	0.	0.	0.
0.04	0.042	0.056	0.857	0.042	0.058	0.842	0.	0.	0.
0.06	0.065	0.086	0.861	0.065	0.089	0.846	0.	0.	0.
0.08	0.085	0.109	0.874	0.085	0.116	0.847	0.	0.	0.
0.10	0.108	0.143	0.860	0.108	0.148	0.845	0.	0.	0.
0.12	0.124	0.160	0.872	0.124	0.170	0.846	0.	0.	0.
.16	0.184	0.228	0.889	0.184	0.246	0.856	0.	0.	0.
0.20	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.30	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.50	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.



CRITICAL ORIFICE CALIBRATION

Client: FoMoCo before

Barometric Pressure: 29.47 "Hg

Date: 4/15/75

Calibrator: RGK

Orifice Number		Test Meter Gas Volume (ft³) V_w	Time (min) θ	Test Meter Temp (°F) T_w	Test Meter Vacuum ("H₂O) P_w	Orifice Temp (°F) T_o	Orifice Vacuum ("H₂O) P_o	Orifice Flowrate (lpm) Q_{cal}
10	Stop	46.3717	10	74	0.1	72	0.8	
	Start	45.9938		74	0.1	71	0.8	
	Average	0.3779		74	0.1 .007	72	0.8 .02	1.068
2	Stop	46.7903	11	74	0.1	72	0.8	
	Start	46.3717		74	0.1	72	0.8	
	Average	0.4186		74	0.1	72	0.8	1.076
	Stop							
	Start							
	Average							
	Stop							
	Start							
	Average							

avg. 1.070

avg. 1.080

$$Q_{cal} = \frac{28.32\ V_w(P_b - P_w)(T_o + 460)}{\theta\ (P_b - P_o)(T_w + 460)}$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFI CALIBRATION

Client: Fn. f (post)

Barometric Pressure: 29.43 "Hg

Date: 4/15/75

Calibrator: RGE

Orifice Number		Test Meter Gas Volume (ft³) V_w	Time (min) θ	Test Meter Temp (°F) T_w	Test Meter Vacuum ("H_2O) P_w	Orifice Temp (°F) T_o	Orifice Vacuum ("H_2O) P_o	Orifice Flowrate (lpm) Q_{cal}
10	Stop	47.1681	10	72	.005	73	0.2	
	Start	46.7904	0	72	.005	73	0.2	
	Average	0.3777		72	0.005	73	0.2	1.072
2	Stop	47.5502	10	72	.005	73.	0.2	
	Start	47.1681	0	72	.005	73.	0.3	
	Average	0.3821		72	0.005	73	0.25	1.085
	Stop							
	Start							
	Average							
	Stop							
	Start							
	Average							

$$Q_{cal} = \frac{28.32\ V_w(P_b - P_w)(T_o + 460)}{\theta\ (P_b - P_o)(T_w + 460)}$$

Clayton Environmental Consultants, Inc.

CRITICAL ORIFI CALIBRATION

Client: Granite City Steel / Ford

Barometric Pressure: 29.53 "Hg

Date: 6/2/75

Calibrator: RGK

Orifice Number		Test Meter Gas Volume (ft³) V_w	Time (min) θ	Test Meter Temp (°F) T_w	Test Meter Vacuum ("H_2O) P_w	Orifice Temp (°F) T_o	Orifice Vacuum ("H_2O) P_o	Orifice Flowrate (lpm) Q_{cal}
10	Stop	71.3843	15	67.5	0.1	67	0.3	
	Start	70.8303	0	67.5	0.1	67	0.3	
	Average	0.5540		67.5	29.52	67	29.51	1.046
2	Stop	71.9829	16	67.5	0.1	69	0.3	
	Start	71.3843	0	67.5	0.1	69	0.3	
	Average	0.5986		67.5	29.52	69	29.51	1.063
[redacted]	Stop	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
	Start	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
	Average	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
12	Stop	74.6737	30	68	0.1	68.5	0.3	
	Start	73.3036	0	67.5	0.1	69	0.3	
	Average	1.3701		68	29.52	69	29.51	1.296

$$Q_{cal} = \frac{28.32\ V_w(P_b - P_w)(T_o + 460)}{\theta\ (P_b - P_o)(T_w + 460)}$$

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CRITICAL ORIFICE CALIBRATION

Client: Ford
Date: 6/2/75
Barometric Pressure: 29.42 "Hg
Calibrator: RLK

Orifice Number		Test Meter Gas Volume (ft³) V_w	Time (min) θ	Test Meter Temp (°F) T_w	Test Meter Vacuum ("H_2O) P_w	Orifice Temp (°F) T_o	Orifice Vacuum ("H_2O) P_o	Orifice Flowrate (lpm) Q_{cal}
3	Stop	75.6377	20	69	0.1	72	0.8	
	Start	74.9253	0	69	0.1	75	0.8	
	Average	0.7124			29.41	74	29.36	1.020
	Stop							
	Start							
	Average							
	Stop							
	Start							
	Average							
	Stop							
	Start							
	Average							

$$Q_{cal} = \frac{28.32\ V_w(P_b - P_w)(T_o + 460)}{\theta\ (P_b - P_o)(T_w + 460)}$$

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APPENDIX E-1

SAMPLE CALCULATIONS

Nomenclature

A_s = Stack area, inches^2

C_f = Front half (probe & filter) particulate concentration, gr/DSCF

C_p = Pitot tube correction factor, dimensionless

C_t = Total particulate concentration, gr/DSCF

D_n = Sampling nozzle diameter, inches

ER_f = Emission rate of front half particulate, lb/hr

ER_t = Emission rate of total particulate, lb/hr

FR_c = Flowrate at calibration conditions, lpm

G_s = Specific gravity of stack gases relative to dry air, dimensionless

M_d = Mole fraction of dry gas, g/g-mole

MW = Molecular weight of wet stack gas

MW_d = Molecular weight of dry stack gas

MW_{gas} = Molecular weight of the gas being sampled

P_b = Barometric pressure, inches mercury

P_f = Absolute pressure at orifice inlet at field conditions, inches mercury

P_m = Average orifice pressure drop, inches water

P_s = Absolute stack gas pressure, inches mercury

P_{st} = Static pressure of stack gas, inches mercury

Q_s = Dry stack gas flowrate at standard conditions, DSCFM

SW_f = Front half sample weight, mg

SW_t = Total sample weight, mg

T_c = Average temperature at calibration conditions, °F

T_m = Average meter temperature, °F

T_s = Stack temperature, °F

T_t = Net time of test, minutes

V_m = Volume of dry gas at meter conditions, ft^3

$V_{m_{std}}$ = Volume of dry gas at standard conditions, DSCF

V_s = Stack gas velocity at stack conditions, fpm

V_w = Total condensate collected in sampling train, ml

$V_{w_{gas}}$ = Volume of water vapor at standard conditions, SCF

γ = Dry gas meter correction factor, dimensionless

ΔP_s = Velocity pressure, inches water

%M = Percent moisture, dimensionless

Particulate Emissions

The dry volume of sampled gas corrected to standard conditions of 20°C and 760 mm Hg (29.92 in. Hg) is calculated as follows:

$$V_{m_{std}} = \frac{17.65 * V_m * \gamma * \left(P_b + \frac{P_m}{13.6}\right)}{T_m + 460}$$

For the first particulate test taken at the Scrubber Inlet of the Rouge Plant Coke Battery A,

$$V_{m_{std}} = \frac{17.65(17.348)(0.974)\left(29.78 + \frac{1.75}{13.6}\right)}{86 + 460}$$

$$= 16.34$$

The dry stack gas flowrate corrected to standard conditions is calculated using the following set of equations sequentially.

$$V_{w_{gas}} = 0.0471 * V_w$$

$$\%M = \frac{100 \quad * V_{w_{gas}}}{V_{m_{std}} + V_{w_{gas}}}$$

$$M_d = \frac{100 - \%M}{100}$$

$$MW_d = (\%CO_2 * 44/100) + (\%O_2 * 32/100) + \left[(\%CO + \%N_2) * 28/100\right]$$

$$MW = (MW_d * M_d) + 18(1 - M_d)$$

$$P_s = P_b + P_{st}$$

$$V_s = 5120.8 * C_p * \sqrt{\Delta P_s * (T_s + 460)} * \sqrt{\frac{1}{P_s * MW}}$$

$$Q_s = \frac{0.1225 * V_s * A_s * M_d * P_s}{(T_s + 460)}$$

The calculations for determining the flowrate for the first particulate test at the Scrubber Inlet follow. Since this is not a combustion source, the molecular weight of the wet stack gas, MW, was assumed to be that of air, 28.95. The diameter of the sampling station is 66 inches.

$$V_{w_{gas}} = 0.0471(12)$$

$$= 0.56$$

$$\%M = \frac{100(0.56)}{16.3 + 0.56}$$

$$= 3.3$$

$$M_d = \frac{100 - 3.3}{100}$$

$$= 0.967$$

$$MW = 28.95$$

$$P_s = 29.78 + (-0.37)$$

$$= 29.41$$

$$V_s = 5120.8(0.838)(29.18)\sqrt{\frac{1}{29.41(28.95)}}$$

$$= 4291$$

$$Q_s = \frac{0.1225(4291)(3421)(0.967)(29.41)}{(158 + 460)}$$

$$= 82{,}800$$

The equation employed to determine percent of isokinetic variation is:

$$\%I = \frac{1032 * (T_s + 460) * V_{m_{std}}}{V_s * T_t * P_s * M_d * (D_n)^2}$$

For the first particulate test at the Scrubber Inlet,

$$\%I = \frac{1032(158 + 460)(16.3)}{4291(24)(29.41)(0.967)(0.189)^2}$$

$$= 99.4$$

To determine the concentration of particulate matter in grains per dry standard cubic foot (gr/DSCF), one of the following equations is used:

$$C_f = 0.01543 * \frac{SW_f}{V_{m_{std}}}$$

and

$$C_t = 0.01543 * \frac{SW_t}{V_{m_{std}}}$$

Front half particulate concentrations are obtained by summing the weight of particulate matter collected on the filter and all portions of the train preceding it. Total particulate concentration includes, in addition, any particulate matter collected in the impingers.

The first particulate test at the Scrubber Inlet yielded the following concentrations of filterable and total particulate:

$$C_f = 0.01543 * \frac{1883.7}{16.3}$$

$$= 1.783$$

$$C_t = 0.01543 * \frac{1956.0}{16.3}$$

$$= 1.852$$

The emission rate of particulate matter can be calculated from the filterable or total particulate concentration using one of the following equations:

$$ER_f = 0.00857 * C_f * Q_s$$

and

$$ER_t = 0.00857 * C_t * Q_s$$

To avoid rounding errors it is preferable to carry out the calculation of concentration and emission rate in one operation.

The emission rates of front half and total particulate matter for the first particulate test at the Scrubber Inlet are calculated as follows:

$$ER_f = 0.00857(1.783)(82{,}800)$$

$$= 1265$$

$$ER_t = 0.00857(1.852)(82{,}800)$$

$$= 1314$$

Emission rates may also be calculated in pounds of particulate matter per ton of feed, where the feed rate used is either on a wet or a dry basis. The feed rate is determined by converting the total pounds of feed charged during each test to tons and dividing by the total number of minutes for which sampling occurred. Then

lbs/ton of feed = (lbs/hr)/(tons/hr).

For the first particulate tsst at the Scrubber Inlet, 1051 tons of feed were charged per hour. Since the filterable particulate emission rate was 1265 lbs/hr,

$$\text{lbs/ton of feed} = 1265/1051$$

$$= 1.20$$

For total particulate emissions,

$$\text{lbs/ton of feed} = 1314/1051$$

$$= 1.25$$

Gaseous Emissions

Sample volumes, concentrations, and emission rates for all contaminants collected using a dry gas meter are calculated in a manner similar to that used for particulate matter. If the concentration is desired in parts per million (ppm), the following equation is used:

$$\text{ppm} = \frac{24040 * SW_t}{28.32 * V_{m_{std}} * MW_{gas}}$$

To correct this concentration to an emission rate, the following equations are used:

$$\text{lb/hr} = (0.1559 * 10^{-6}) * \text{ppm} * Q_s * MW_{gas}$$

and

$$\text{lb/ton of feed} = (\text{lb/hr})(\text{tons/hr})$$

Again, to avoid errors it is preferable to calculate the emission rate before rounding off the concentration value.

For the first sulfur dioxide sample taken at the inlet to the scrubber on the Rouge Plant Coke Battery A,

$$\text{ppm} = \frac{24040(3.11)}{28.32(3.74)(64.06)}$$

$$= 11.02$$

$$\text{lb/hr} = (0.1559 * 10^{-6})(11.02)(80{,}300)(64.06)$$

$$= 8.84$$

$$\text{lb/ton of feed} = 8.84/1053$$

$$= 0.0084$$

At the Rouge Plant Coke Battery A several samples were also taken using a limiting orifice. In order to calculate the sample volume, corrected to standard conditions, when a limiting orifice is used and silica gel is used in the sampling train, the following equation is applied:

$$V_{m_{std}} = 0.6231 * T_t * FR_c * \frac{P_f}{T_c + 460} * \sqrt{\frac{T_c + 460}{T_m + 460}}$$

For the first benzene samples taken at the Scrubber Inlet,

$$\begin{aligned} V_{m_{std}} &= 0.6231(1)(1.296)\left(\frac{28.22}{69 + 460}\right)\sqrt{\frac{69 + 460}{68 + 460}} \\ &= 0.0431 \end{aligned}$$

Concentrations and emission rates for samples taken with a limiting orifice are calculated in the same manner as shown previously.

Particle Size Distribution Calculations

All samples collected for particle size distribution at the Rouge Plant Coke Battery A utilized the Andersen Stack Sampler. These particulate samples were collected and sized aerodynamically at isokinetic conditions. A sample volume was calculated similar to that of a particulate test and expressed in cubic feet at 70°F and 29.92 inches of mercury. The sample volume was then divided by the total number of minutes the test was run, yielding a flowrate through the Andersen sampler expressed in cubic feet per minute (cfm) for each test.

Figure E-1 is a plot of D'_p versus flowrate (cubic feet per minute) through the Andersen Sampler at 70°F. D'_p is the effective aerodynamic diameter of a spherical, unit density particle.

Figure E-2 shows the correction factor for determining the physical diameter of spherical particles having other than unit density. (The assumption is made that the particles are spherical in shape.) The effective aerodynamic diameter as determined from Figure E-1 is multiplied by the correction factor from Figure E-2 to determine the physical diameter for that density.

Figure E-3 shows the correction factor for determining the effective aerodynamic particle diameter for elevated temperatures. The effective aerodynamic diameter as determined from Figure E-1 is multiplied by the correction factor from Figure E-3 to determine the diameter for that temperature.

The quantities collected on each stage and on the final filter are each expressed as a percentage of the total amount recovered. A cumulative percentage smaller than D_p (characteristic particle diameter) is then calculated for each stage.

The particle size samples taken at the Rouge Plant Scrubber Inlet were taken during three different time periods simultaneous with one sample taken at the Scrubber Outlet. For the inlet samples the characteristic particle diameters were averaged over the three tests and the weights on each stage were summed.

For the first particle size sample taken at the Scrubber Outlet, the flowrate at 70°F and 29.92 in. Hg was 0.446 cfm and the stack temperature was 123°F. Particle density for these samples was assumed to be 1.14 gm/cc.

From Figure E-1, D_p' was obtained for each stage. From Figure E-2 the correction factor for a particle density of 1.14 gm/cc was found to be 0.95. From Figure E-3 the correction factor for a stack temperature of 123°F was found to be 1.040. The characteristic diameter for each stage was determined by the following equation:

$$D_p = D_p' (0.95)(1.040).$$

The characteristic particle diameter for the various stages of this test are shown below:

	D_p'	D_p
Stage 0	14.6	14.4
Stage 1	9.1	9.0
Stage 2	6.1	6.0
Stage 3	4.2	4.1
Stage 4	2.6	2.6
Stage 5	1.4	1.4
Stage 6	0.82	0.81
Stage 7	0.58	0.57

The results of these calculations were then combined with the quantities determined in each of the fractions and distributed as shown in Table 7.3.1-8.

Fugitive Emissions Calculations

Fugitive emission samples were collected at the Rouge Plant Coke Battery A with high-volume air samplers. Initial and final rotometer readings were made for each test and the sample duration was recorded. The rotometer readings were converted to flowrates by reference to a calibration curve. The sample volume was determined by multiplying the avemage of these two flowrates by the sample duration in minutes.

For the first fugitive emissions sample taken on June 10, 1975, the initial and final rotometer readings were 33 and 30, respectively. These two readings corresponded to flowrates of 51 and 47 cfm. The sample duration was 25 seconds, or 0.417 minutes. The sampled volume was thus calculated as follows:

$$V_m = 0.417\left(\frac{51 + 47}{2}\right)$$

$$= 20.4 \text{ ft}^3$$

In order to determine the concentration of particulate matter in these emissions, the following equation was employed:

$$\frac{mg}{m^3} = \frac{SW_t}{V_m * 0.02832}$$

For the first sample on June 10th,

$$\frac{mg}{m^3} = \frac{71.3}{20.4(0.02832)}$$

$$= 123$$

FIGURE E-1

AERODYNAMIC DIAMETER VERSUS FLOW RATE THROUGH ANDERSEN STACK SAMPLER

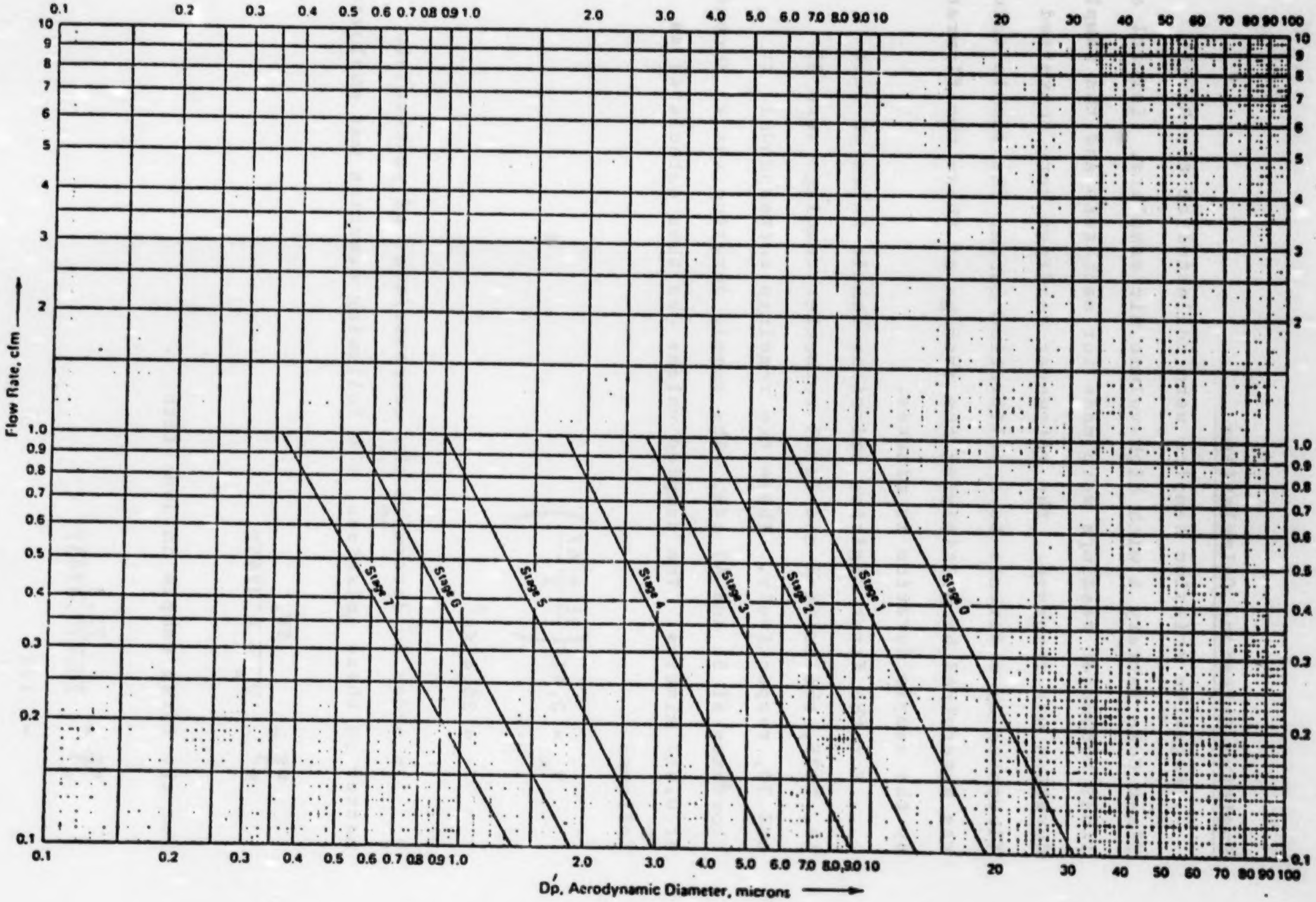


FIGURE E-2

DENSITY CORRECTION FACTOR FOR PHYSICAL SIZE OF PARTICLES CAPTURED IN ANDERSEN STACK SAMPLER

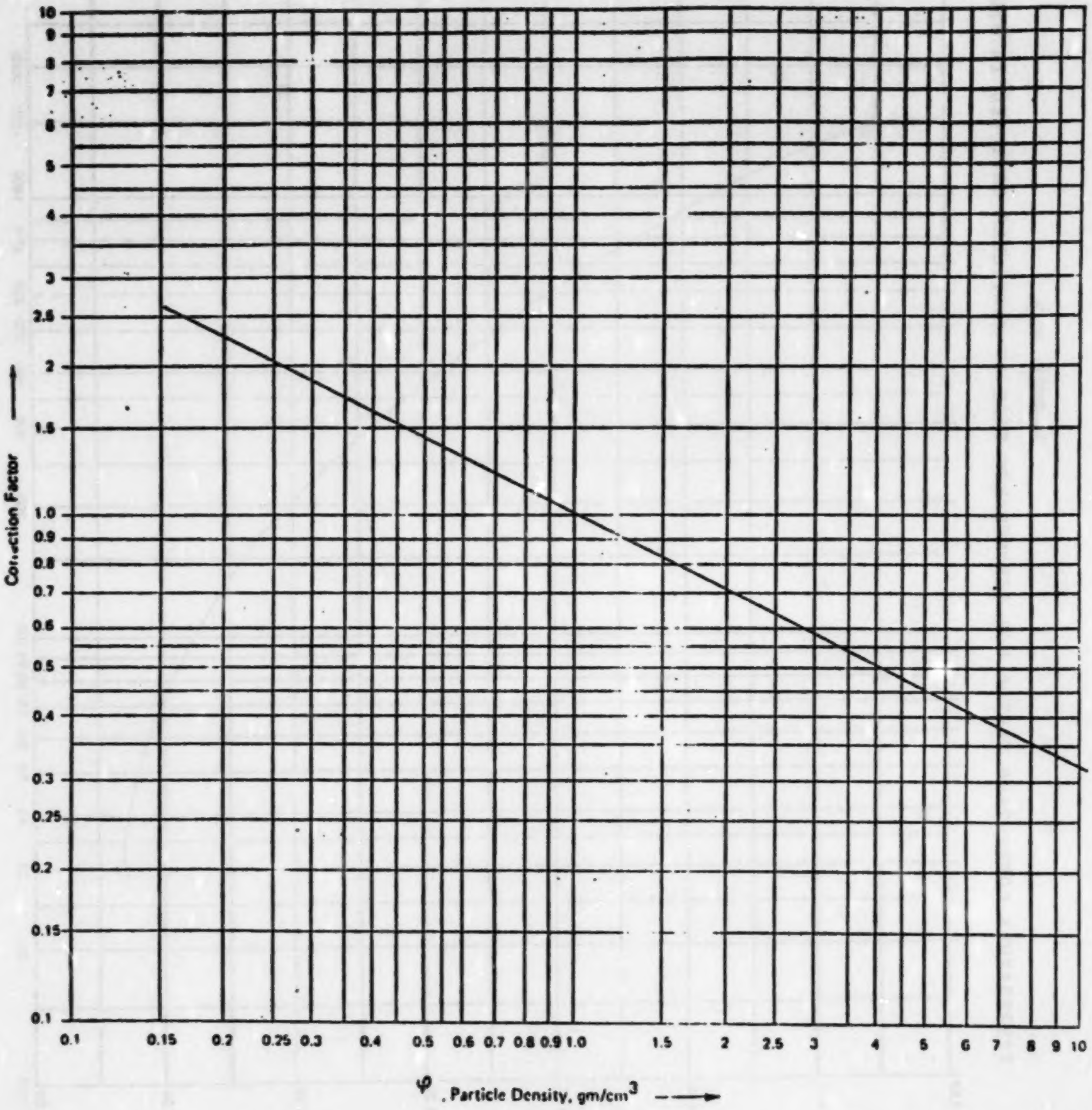
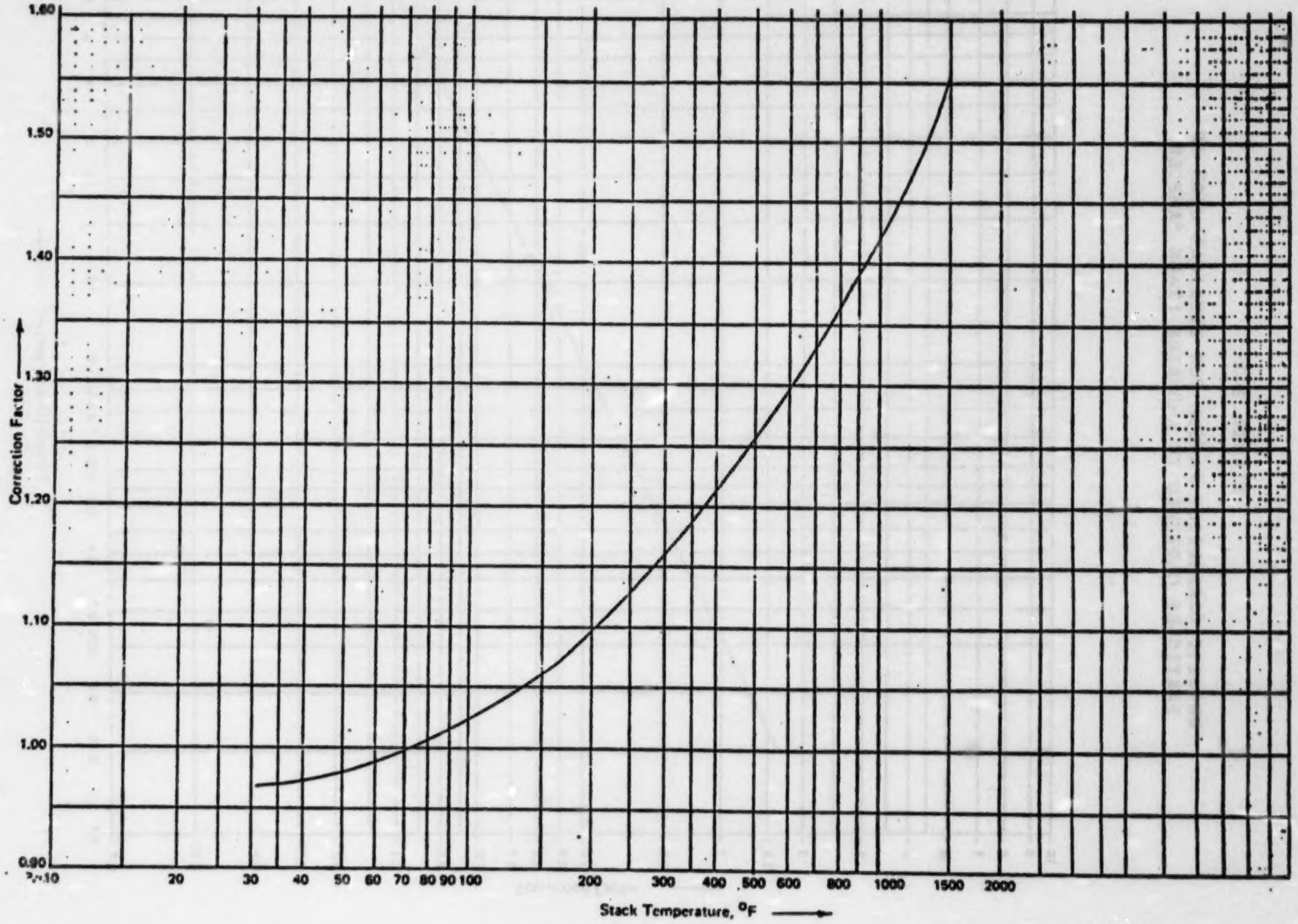


FIGURE E-3

TEMPERATURE CORRECTION FACTOR FOR AERODYNAMIC SIZE OF PARTICLES CAPTURED IN ANDERSEN STACK SAMPLER



APPENDIX F-1

PROJECT PARTICIPANTS

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Appendix F (continued)

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APPENDIX G-i

DAILY LOG OF FUME HOOD PERFORMANCE

This appendix contains all field data pertaining to hood performance recorded when the Clayton engineer-observer was on-site and was not recording data on scrubber performance.

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-16-74 Atmospheric Pressure 30.2 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	44	0800						
2	X54	0815						
3	X64	0830						
4	6	0850						
5	16	0905	0906	Calm	0	0	Good	35750
6	26	0920	1004	264	>90	0	Good	35550
7	36	0935	1016	Calm	>90	0	Good	35850
8	46	0950	1026	440	>90	0	Good	35900
9	X56	1005	1038	Calm	>90	0	Good	36000
10	8	1020	1056	Calm	>90	0	Good	36300
11	18	1035	1103	1760	>90	0	Fire	35950
12	28	1055	1114	1320	>90	0	Good	36000
13	38	1110	1128	880	>90	0	Good	35850
14	48	1125	1138	880	90	20	Green	35550
15	X58	1145						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-16-74 Atmospheric Pressure 30.2 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	--	1200						
17	1	1215	1242	1760	80	0	Fire & Smoke	35750
18	11	1230	1252	2200	80	0	Fire & Smoke	35850
19	21	1250	1303	1760	>90	0	Good	35500
20	31	1305	1314	1760	0	0	Good	35250
21	41	1320	1328	2200	>90	0	Good	34700
22	X51	1335	1340	2200	80	20	Green	35950
23	X61	1350	1400	1760	>90	0	Good	35900
24	3	1405	1407	880	>90	0	Good	35800
25	13	1425	1420	264	>90	0	Good	35600
26	23	1440	1432	440	>90	0	Good	35400
27	33	1450	1443	440	0	0	Good	35500
28	43	1510	1453	440	>90	10	Fire & Smoke	34600
29	X53	1530						
30	X63	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-19-74 Atmospheric Pressure 30.1 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	33	0800						
2	43	0815						
3	X53	0830						
4	X63	0850	0920					
5	--	0905						
6	5	0920	0935	880	<50	0	Fire & Smoke	35500
7	15	0935	0948	440	>90	0	Good	35600
8	25	0950	1000	440	>90	0	Good	35300
9	35	1005	1010	264	0	0	Fire & Smoke	35750
10	45	1020	1025	264	0	0	Good	35650
11	X55	1035	1035	264	0	0	Good	35450
12	7	1055	1045	264	>90	0	Good	35700
13	17	1110	1055	440	>90	0	Good	35950
14	27	1125	1110	880	0	0	Green	35450
15	37	1145	1125	1760	0	0	Fire & Smoke	35500

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-19-74 Atmospheric Pressure 30.1 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	47	1200	1220					35800
17	X57	1215	1230					35850
18	9	1230	1245				Green	35850
19	19	1250	1300				Smoke	35850
20	29	1305	1340	264	0	0	Good	36500
21	39	1320	1350	440	0	0	Good	36250
22	49	1335	1405	1320	0	0	Good	36550
23	X59	1350	1420	1320	0	0	Good	36650
24	2	1405	1445	440	>90	0	Good	36300
25	12	1425	1500	1760	>90	0	Good	36200
26	22	1440	1515	1760	>95	10	Good	36350
27	32	1450	1533	440	>90	0	Good	36450
28	42	1510	1543	264	>90	10	Good	36400
29	X52	1530						
30	X62	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-21-74 Atmospheric Pressure 30.3 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	3	0800	0815	90	>95	0	Good	35900
2	13	0815	0826	60	>90	0	Good	34300
3	23	0830	0846	0	>90	0	Good	35750
4	33	0850	0906	0	~50	20	Fire & Smoke	34400
5	43	0905	0927			0	Good	34600
6	X53	0920	0937			0	Good	34400
7	X63	0935	0950	260		0	Good	36500
8	--	0950						
9	5	1005	1000			0	Good	34350
10	15	1020	1020	130	>90	0	Good	34550
11	25	1035	1033		>90	0	Good	34500
12	35	1055	1047	220	~50	0	Good	34550
13	45	1110	1057			0	Good	34500
14	X55	1125	1106			0	Good	34850
15	7	1145	1115	120		0	Good	34600

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-21-74 Atmospheric Pressure 30.3 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	17	1200	1209	320		0	Good	34850
17	27	1215	1215			0	Good	34950
18	37	1230	1225			0	Good	34800
19	47	1250	1245	410	~50	0	Good	34950
20	X57	1305	1306	500	~50	10	Good	35300
21	9	1320	1317		>90	0	Good	35450
22	19	1335	1327		>90	0	Good	34950
23	29	1350	1342			0	Good	35300
24	39	1405	1401			0	Good	35150
25	49	1425	1412	480	>90	0	Good	35300
26	X59	1440	1420	540	>90	0	Good	35200
27	2	1450	1434	240	>90	0	Good	35500
28	12	1510	1440	220	>90	0	Good	35700
29	22	1530	1458		>90	0	Good	35400
30	32	1545	1517			0	Good	35400

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-22-74 Atmospheric Pressure 30.2 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	32	0800	0813	150	>90	0	Good	35050
2	42	0815	0843	200	~50	0	Fire & Smoke	36600
3	X52	0830	0903	380	~50	0	Good	34950
4	X62	0850	0920	230	~50	10	Good	35500
5	4	0905	0931	660	>90	0	Good	35100
6	—	0920						
7	14	0935	0948	360	>90	0	Good	35000
8	24	0950	1003	60	>90	0	Good	35100
9	34	1005	1021	510	~50	10	Fire & Smoke	35500
10	44	1020	1043	260	~50	0	Good	35200
11	X54	1035	1053			0	Good	35850
12	X64	1055	1108			0	Good	35250
13	6	1110	1120			0	Good	35200
14	16	1125	1131			0	Good	35000
15	26	1145	1142			0	Good	34900

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-22-74 Atmospheric Pressure 30.2 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	36	1200	1151		~50	30	Green	35050
17	46	1215	1242				Green	35000
18	X56	1230	1255					
19	8	1250	1305					
20	18	1305	1339					
21	28	1320	1355					
22	38	1335	1409					
23	48	1350	1422					
24	X58	1405	1433					
25	—	1425						
26	1	1440	1450					
27	11	1450	1500					
28	21	1510						
29	31	1530						
30	41	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-23-74 **Atmospheric Pressure** 30.1 **Initial:** MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	41	0800						
2	X51	0815						
3	X61	0830						
4	3	0850	1033		>90	0	Good	35800
5	13	0905	1043		>90	0	Good	35850
6	23	0920						
7	33	0935						
8	43	0950						
9	X53	1005						
10	X63	1020						
11	—	1035						
12	5	1055	1055	160	>90	0	Good	36000
13	15	1110	1112	580	>90	0	Good	35800
14	25	1125	1120	570	>90	0	Good	35300
15	35	1145	1135	300	>90	0	Good	34550

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-23-74 Atmospheric Pressure 30.1 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	45	1200	1222			0	Good	36950
17	X55	1215	1230			0	Good	35700
18	7	1230	1241			0	Good	35550
19	17	1250	1249			0	Good	36600
20	27	1305	1258			0	Good	35800
21	37	1320	1322			0	Good	35500
22	47	1335	1338			0	Good	35900
23	X57	1350	1356			0	Fire & Smoke	35750
24	9	1405	1422	110		10	Fire & Smoke	35300
25	19	1425	1430	300		0	Good	35750
26	29	1440	1443	750		0	Good	35350
27	39	1450	1454	600		0	Good	35650
28	49	1510	1506	1070		10	Good	35650
29	X59	1530	1528	800		0	Good	35600
30	2	1545	1550			0	Good	35750

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-26-74 Atmospheric Pressure 30.1 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	2	0800	0825			0	Good	36700
2	12	0815	0830			0	Good	35700
3	22	0830	0855			10	Good	35800
4	32	0850	0912			0	Good	35550
5	42	0905	0930			0	Good	35750
6	X52	0920	0944			0	Good	35600
7	X62	0935	1002			0	Good	36650
8	—	0950						
9	4	1005	1010	860	>90	0	Good	36100
10	14	1020	1031	550	>90	0	Good	35900
11	24	1035	1041	190	>90	0	Good	35700
12	34	1055	1055	920	>90	0	Good	35500
13	44	1110	1110	440	~50	0	Good	35400
14	X54	1125	1120	260	~50	0	Good	35450
15	X64	1145	1130	110	~50	0	Good	35350

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-26-74 Atmospheric Pressure 30.1 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	6	1200	1210			0	Good	35350
17	16	1215	1226			0	Good	35700
18	26	1230	1259			0	Good	35800
19	36	1250	1310			0	Good	35600
20	46	1305	1323			0	Good	35600
21	X56	1320	1342			0	Good	36200
22	8	1335	1350	550	>90	0	Good	35750
23	18	1350	1407	240	>90	0	Good	36200
24	28	1405	1417	590	>90	0	Good	35450
25	38	1425	1429	560	~50	10	Good	36750
26	48	1440	1444	230	~50	20	Fire & Smoke	35550
27	X58	1450	1505	310		20	Fire & Smoke	35400
28	—	1510						
29	1	1530	1515			0	Good	37000
30	11	1545	1530			0	Good	35950

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-27-74 Atmospheric Pressure 30.0 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	11	0800	0819	180	10	0	Good	36950
2	21	0815	0827	360		0	Good	35650
3	31	0830	0914	200		0	Good	36000
4	41	0850	0923	240		20	Fire & Smoke	35350
5	X51	0905	0937	Calm	10	0	Good	35600
6	X61	0920	0948	180	10	0	Good	35800
7	3	0935	1002	Calm	10	0	Good	35400
8	13	0950	1017	190	>90	0	Good	36050
9	23	1005	1029	360	>90	20	Fire & Smoke	35650
10	33	1020	1040	350	>90	0	Good	35600
11	43	1035	1048	550	10	0	Good	35700
12	X53	1055	1058	760	10	0	Good	35400
13	X63	1110	1124	880	10	20	Fire & Smoke	35550
14	—	1125						
15	5	1145	1134	550	>90	0	Good	35450

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-27-74 Atmospheric Pressure 30.0 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	15	1200	1210	570	>90	0	Good	35550
17	25	1215	1223	980	>90	0	Good	35300
18	35	1230	1243	990	80	20	Fire & Smoke	35300
19	45	1250	1252	850	10	0	Good	35550
20	X55	1305	1305	800	70	20	Green	35450
21	7	1320	1318	670	90	0	Good	34600
22	17	1335	1327	830	>90	0	Good	35400
23	27	1350	1346	970	>90	0	Good	35000
24	37	1405	1356	790	10	20	Green	35500
25	47	1425	1405	1210	10	20	Green	35400
26	X57	1440	1419	1070	10	40	Green	36500
27	9	1450	1431	440	90	0	Good	36500
28	19	1510	1444	420	>90	10	Good	35600
29	29	1530	1455	560	>90	0	Good	35050
30	39	1545	1512	350	10	10	Good	33900

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-28-74 Atmospheric Pressure 30.0 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	39	0800	0820	430	10	0	Good	35550
2	49	0815	0829	410	10	10	Fire & Smoke	35350
3	X59	0830	0838	Calm	10	40	Green	35000
4	2	0850	0851	170	>90	0	Good	35300
5	12	0905	0904	150	>90	0	Good	34150
6	22	0920	0919	530	90	20	Fire & Smoke	34150
7	32	0935	0939	560	>90	0	Good	34100
8	42	0950	0943	150	10	10	Fire & Smoke	34000
9	X52	1005	0952	180	10	40	Green	35550
10	X62	1020	1013	420	10	50	Green	35250
11	—	1035						
12	4	1055	1020	200	>90	0	Good	35650
13	14	1110	1032	80	>90	0	Good	35950
14	24	1125	1051	170	>90	0	Good	35600
15	34	1145	1105	360	>90	0	Good	36050

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-28-74 Atmospheric Pressure 30.0 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	44	1200	1234	160	10	0	Good	36500
17	X54	1215	1245	290	10	0	Good	35700
18	X64	1230	1254	400	10	40	Fire & Smoke	35800
19	6	1250	1306	370	>90	0	Good	35950
20	16	1305	1319	240	>90	0	Good	36200
21	26	1320	1326	450	>90	0	Good	36150
22	36	1335	1336	330	>90	0	Good	35900
23	46	1350	1345	360	10	20	Fire & Smoke	35850
24	X56	1405	1352	340	10	80	Green	35800
25	8	1425	1411	310	>90	0	Good	35300
26	18	1440	1422	350	>90	0	Good	34350
27	28	1450	1442	360	>90	0	Good	36650
28	38	1510	1451	130	10	0	Good	35600
29	48	1530	1502	280	10	20	Fire & Smoke	35600
30	X58	1545	1511	350	10	40	Green	36000

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-29-74 Atmospheric Pressure 30.0 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X 58	0800	0823				Good	35800
2	—	0815						
3	1	0830	0833				Good	35950
4	11	0850	0844					35950
5	21	0905	0915					36850
6	31	0920	0934					35750
7	41	0935	0944					36000
8	X51	0950	1006					35500
9	X61	1005	1029					35650
10	3	1020	1044					35900
11	13	1035	1053					36050
12	23	1055	1104					35800
13	33	1110	1116					35950
14	43	1125	1123					36000
15	X53	1145	1135					35750

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-29-74   Atmospheric Pressure 30.0   Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	X63	1200	1211				Good	35850
17	—	1215						
18	5	1230	1232				Good	35300
19	15	1250	1242				Good	35600
20	25	1305	1253				Good	35650
21	35	1320	1303				Good	35700
22	45	1335	1314				Good	35700
23	X55	1350	1325				Green	35450
24	7	1405	1335				Good	35400
25	17	1425	1351				Good	35700
26	27	1440	1406				Good	36950
27	37	1450	1419				Good	34250
28	47	1510	1429				Good	35500
29	X57	1530	1453		~50	20	Fire & Smoke	35500
30	9	1545	1516		>90	0	Good	35450

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-30-74 Atmospheric Pressure 30.0 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	9	0800	0817			0	Good	35000
2	19	0815	0825			0	Good	35500
3	29	0830	0844	220		0	Good	35200
4	39	0850	0856	190		0	Good	35020
5	49	0905	0909	130		0	Good	35200
6	X59	0920	0934	Calm		0	Good	35350
7	2	0935	0951	210	>90	0	Good	35150
8	12	0950	1004	340	0	0	Good	35150
9	22	1005	1015		0	0	Good	35300
10	32	1020	1024		0	0	Good	35400
11	42	1035	1027		0	0	Good	35750
12	X52	1055	1050	460	>90	0	Good	35550
13	X62	1110	1107	220	>80	20	Fire & Smoke	35550
14	—	1125						
15	4	1145	1116	Calm	>90	0	Good	35350

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-30-74 Atmospheric Pressure 30.0 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	14	1200	1204	590		0	Good	35400
17	24	1215	1215	480		10	Fire & Smoke	35050
18	34	1230	1242	840		0	Good	35350
19	44	1250	1253	420		0	Good	35450
20	X54	1305	1301	360		10	Fire & Smoke	36750
21	X64	1320	1313	310		10	Fire & Smoke	35450
22	6	1335	1323	Calm	>90	10	Good	35350
23	16	1350	1343	230	>90	0	Good	35250
24	26	1405	1353	270	>90	0	Good	35300
25	36	1425	1401	360	>90	10	Fire & Smoke	36700
26	46	1440	1421	460	>90	0	Good	35600
27	X56	1450	1440	Calm	80	30	Green	35200
28	8	1510	1457	310		0	Good	35050
29	18	1530	1511	Calm		0	Good	35350
30	28	1545	1524	420		0	Good	35250

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-3-74 Atmospheric Pressure 30.0 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	7	0800	0831	390		0	Good	36600
2	17	0815	0843	560		0	Good	36600
3	27	0830	0857	170		0	Good	36350
4	37	0850	0907	350		0	Good	36450
5	47	0905	0914	360		0	Good	36250
6	X57	0920	0925	160		0	Good	36400
7	9	0935	0943	750	>90	0	Good	36500
8	19	0950	0957	550	>90	0	Good	36300
9	29	1005	1007	490	>90	0	Good	36650
10	39	1020	1022	220	>90	0	Good	36700
11	49	1035	1033	480	>90	0	Good	36250
12	X59	1055	1044	370	>90	0	Good	36350
13	2	1110	1100	280		0	Good	36600
14	12	1125	1114	380		0	Good	36350
15	22	1145	1128	440		0	Good	36550

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-3-74 Atmospheric Pressure 30.1 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	32	1200	1216	400		0	Good	35400
17	42	1215	1227	430		0	Good	36750
18	X52	1230	1240	450		0	Good	36400
19	X62	1250	1250	390		30	Fire & Smoke	36100
20	—	1305						
21	4	1320	1303	790	>90	0	Good	36350
22	14	1335	1314	280	>90	0	Good	36400
23	24	1350	1324	620	>90	0	Good	36200
24	34	1405	1336	610	>90	0	Good	36450
25	44	1425	1349	760	>90	0	Good	36450
26	X54	1440	1403	230	>80	10	Fire & Smoke	36400
27	X64	1450	1429	680	>90	0	Good	36400
28	6	1510	1453	310		0	Good	36200
29	16	1530	1459	400		0	Good	36050
30	26	1545	1522	350		0	Good	35950

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-4-74 Atmospheric Pressure 30.2 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	26	0800	0810	Calm		0	Good	36850
2	36	0815	0817	190		20	Good	36200
3	46	0830	0837	160		0	Good	36050
4	X56	0850	0847	170		30	Green	35500
5	8	0905	0922	520	>90	0	Good	35950
6	18	0920	0930	340	>90	0	Good	34800
7	28	0935	1003	480	>90	0	Good	35400
8	38	0950	1015	410	>90	0	Good	35800
9	48	1005	1032	140	>90	0	Good	35600
10	X58	1020	1043	620	~50	10	Green	35900
11	—	1035						
12	1	1055	1107	340		0	Good	35500
13	11	1110	1121	230		0	Good	35650
14	21	1125	1142	170		0	Good	36800
15	31	1145	1153	120		0	Good	35450

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-4-74 Atmospheric Pressure 30.2 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	41	1200	1238	350		0	Good	35250
17	X51	1215	1248	360		0	Good	35500
18	X61	1230	1301	400		0	Fire & Smoke	35150
19	3	1250	1312	360	>90	0	Good	35350
20	13	1305	1324	560	>90	0	Good	35550
21	23	1320	1336	270	>90	0	Good	35000
22	33	1335	1345	480	>90	0	Good	34350
23	43	1350	1356	260	>90	0	Good	35500
24	X53	1405	1405	540	>90	0	Good	35550
25	X63	1425	1416	470	~50	20	Fire & Smoke	35600
26		1440						
27	5	1450	1438	380		0	Good	35200
28	15	1510	1453	240		0	Good	34750
29	25	1530	1503	230		0	Good	
30	35	1545	1513	310		0	Good	

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-5-74 Atmospheric Pressure 30.4 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	35	0800	0831				Good	35900
2	45	0815	0841	220		0	Good	36200
3	X55	0830	0847	180		20	Green	33850
4	7	0850	0857	220		0	Green	33900
5	17	0905	0922	250	>90	0	Good	35650
6	27	0920	0932	220	>90	0	Good	37200
7	37	0935	0959	290	>90	0	Good	35850
8	47	0950	1018	390	80	10	Fire & Smoke	35700
9	X57	1005	1029	590	80	10	Green	35350
10	9	1020	1040	360		0	Good	35550
11	19	1035	1050			0	Good	35250
12	29	1055	1103	490		0	Good	35100
13	39	1110	1118	390		0	Good	36300
14	49	1125	1128	550		0	Good	35750
15	X59	1145	1138	380		10	Fire & Smoke	35900

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-5-74 Atmospheric Pressure 30.4 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	2	1200	1228	840	>90	0	Good	35700
17	12	1215	1235	1150	>90	0	Good	35700
18	22	1230	1250	1080	>90	0	Good	35800
19	32	1250	1259	960	>90	0	Good	35400
20	42	1305	1310	1220	>90	0	Good	36400
21	X 52	1320	1317	1160	>90	0	Good	37350
22	X 62	1335	1328	970	~50	30	Fire & Smoke	35850
23	—	1350						
24	4	1405	1338	420		0	Good	36100
25	14	1425	1351	340		0	Good	35650
26	24	1440	1405	310		0	Good	36750
27	34	1450	1429	260		0	Good	36100
28	44	1510	1442	140		0	Good	36300
29	X 54	1530	1505	340		0	Good	36300
30	X 64	1545	1518	280		0	Good	37250

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-6-74 **Atmospheric Pressure** 30.3 **Initial:** RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X64	0800	0854	80	0		Good	
2	6	0815	0921	100	>90	20	Fire & Smoke	36650
3	16	0830	0930	0	>90	0	Good	36050
4	26	0850	0940	140	>90	0	Good	36050
5	36	0905	0957	50	>90	0	Good	36200
6	46	0920	1011	80	>90	0	Good	35800
7	X56	0935	1025	420	80	20	Fire & Smoke	36200
8	8	0950	1040	420	>90	0	Good	36200
9	18	1005	1055	300	>90	0	Good	37150
10	28	1020	1106	450	>90	0	Good	36000
11	38	1035	1116	480	>90	0	Good	36300
12	48	1055	1128	500	>90	0	Good	35750
13	X58	1110	1141	560	>90	0	Good	36050
14	—	1125						
15	1	1145	1152	480	>90	0	Good	36350

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-6-74 Atmospheric Pressure 30.3 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	11	1200	1203	700	>90	0	Good	36350
17	21	1215	1212	380	>90	0	Good	36000
18	31	1230	1253	160	>90	0	Good	35400
19	41	1250	1302	190	>90	0	Fire & Smoke	34800
20	X51	1305	1320	80	>90	0	Good	35350
21	X61	1320	1332	110	>90	0	Good	33550
22	3	1335	1345	200	>90	0	Good	35050
23	13	1350	1354	240	>90	20	Fire & Smoke	35150
24	23	1405	1405	80	>90	0	Good	37250
25	33	1425	1416	340	>90	0	Good	34350
26	43	1440	1425	240	>90	0	Good	
27	X53	1450	1437	330	80	20	Fire & Smoke	33800
28	X63	1510	1449	100	80	20	Fire & Smoke	34200
29	—	1530						
30	5	1545	1510	140	>90	0	Good	34500

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-8-75 Atmospheric Pressure 29.56 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	44	0800	0825	Calm	90	0	Good	
2	X54	0820	0836	180	90	0	Good	
3	X64	0839	0847	240	90	0	Good	
4	6	0859	0859	130	90	0	Good	
5	16	0918	0913	80	90	0	Good	
6	26	0938	0930	130	90	0	Good	
7	36	0958	0950	80	70	10	Fire & Smoke	
8	46	1017	1007	70	70	20	Fire & Smoke	
9	X56	1036	1030	60	90	10	Good	
10	8	1056	1045	270	90	0	Good	
11	18	1115	1107	550	90	0	Good	
12	28	1134	1123	340	90	0	Good	
13	38	1153	1140	380	70	10	Fire & Smoke	
14								
15								

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-8-75 Atmospheric Pressure 29.47 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	48	1212	1219	320	90	0	Good	
17	X58	1232	1233	240	90	0	Good	
18	1	1252	1246		90	0	Good	
19	11	1312	1312		70	20	Fire & Smoke	
20	21	1332	1323		90	0	Good	
21	31	1352	1340		90	0	Good	
22	41	1412	1352		70	20	Fire & Smoke	
23	X51	1430	1414		90	10	Good	
24	X61	1450	1435		90	0	Good	
25	3	1510	1507	360	90	0	Good	
26	13	1530	1520		90	0	Good	
27								
28								
29								
30								

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-9-75 Atmospheric Pressure 29.66 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X58	0800	0820	300	90	0	Good	
2	1	0820	0830	280	90	0	Good	
3	11	0839	0900	1280	90	0	Good	
4	21	0859	0918	580	90	0	Good	
5	31	0918	0931	650	90	0	Good	
6	41	0938	0944	540	90	0	Good	
7	X51	0958	1001	1000	90	0	Good	
8	X61	1017	1017	500	90	0	Good	
9	3	1036	1024	380	90	0	Good	
10	13	1056	1046	240	90	0	Good	
11	23	1115	1057	250	90	0	Good	
12	33	1134	1115	350	90	0	Good	
13	43	1153	1127	480	0	0	Green	
14								
15								

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-10-75 Atmospheric Pressure 29.51 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X63	0800	0820	210	90	0	Good	
2	5	0820	0830	180	90	0	Good	
3	15	0839	0900	800	90	0	Good	
4	25	0859	0912	670	90	0	Good	
5	35	0918	0923	570	70	10	Fire & Smoke	
6	45	0938	0942	420	90	0	Good	
7	X55	0958	0957	360	90	0	Good	
8	7	1017	1012	340	90	0	Good	
9	17	1036	1025	490	90	0	Good	
10	27	1056	1036	510	90	0	Good	
11	37	1115	1051	440	90	10	Fire & Smoke	
12	47	1134	1106	360	70	40	Green	
13	X57	1153	1120	410	90	0	Good	
14								
15								

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-10-75 Atmospheric Pressure 29.37 Initial: MRD

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	9	1212	1215		90	0	Good	
17	19	1232	1226		90	0	Good	
18	29	1252	1310	560	90	0	Good	
19	39	1312	1321	410	70	30	Green	
20	49	1332	1335	440	90	0	Good	
21	X59	1352	1352	360	90	0	Good	
22	2	1412	1403	700	90	0	Good	
23	12	1430	1419	550	70	20	Fire & Smoke	
24	22	1450	1446	560	90	0	Good	
25	32	1510	1501	470	90	0	Good	
26	42	1530	1516	610	90	10	Fire & Smoke	
27								
28								
29								
30								

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-3-75 Atmospheric Pressure 29.50 Initial: JBS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	48	0800	0820					
2	X58	0815	0830					35700
3	—	0830						
4	1	0850	0855					35550
5	11	0905	0958					34700
6	21	0920	1012					34500
7	31	0935	1022					33500
8	41	0950	1040					34000
9	X51	1005	1047					33800
10	X61	1020	1104					33950
11	3	1035	1114					34850
12	13	1055	1124					—
13	23	1110	1204					—
14	33	1125	1213					—
15	43	1145	1224					34750

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-3-75 Atmospheric Pressure 29.5 Initial: JBS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	X53	1200	1302					35350
17	X63	1215	1308					35050
18	—	1230						
19	5	1250	1330	360	80-90	25	Good	35000
20	15	1305	1340	265	70	10	Good	34750
21	25	1320	1350	380	80	10	Good	—
22	35	1335	1407	350	80	10	Good	—
23	45	1350	1443	325	50	40	Green	—
24	X55	1405	1437	490	50	10	Green	35350
25	7	1425	1446	495	95	0	Good	35500
26	17	1440	1458	365	70	30	Fire & Smoke	29050
27	27	1450	1509	420	90	0	Good	35600
28	37	1510	1519	290	50	25	Green	34850
29	47	1530	1538	360	85	15	Good	35750
30	X57	1545	1552	350	50	30	Green	36350

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-3-75 Atmospheric Pressure 29.5 Initial: JBS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	9	1600	1613	430	90	5	Good	
2	19	1615	1626	455	85	25	Good	
3	29	1630	1640	380	75	15	Good	
4	39	1645	1653	420	35	20	Green	
5	49	1700	1710	545	25	55	Green	
6	X 59	1715	1729	420	70	25	Fire & Smoke	
7								
8								
9								
10								
11								
12								
13								
14								
15								

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-4-75 Atmospheric Pressure ______ Initial: JBS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X57	0800	0830					
2	9	0815	0904	300	70	20	Good	—
3	19	0830	0914	320	70	15	Good	—
4	29	0850	0926	360	60	30	Fire & Smoke	—
5	39	0905	0940	400	15	45	Green	—
6	49	0920	0955					—
7	X59	0935	1018					—
8	2	0950	1049	430	65	25	Fire & Smoke	36550
9	12	1005	1104	510	30	25	Green	36650
10	22	1020	1116	480	75	10	Good	35950
11	32	1035	1125					36250
12	42	1055						—
13	X52	1110						36000
14	X62	1125						35700
15		1145						

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-4-75 Atmospheric Pressure ____ Initial: JBS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	4	1200	1300	400	90	10	Good	35800
17	14	1215	1310	250	95	0	Good	36050
18	24	1230	1317	245	75	25	Good	35100
19	34	1250	1330					33150
20	44	1305	1346					31950
21	X54	1320	1359					35400
22	X64	1335	1411					35500
23	6	1350	1425	405	65	5	Good	35100
24	16	1405	1434	265	10	35	Green	36700
25	26	1425	1444	300	60	20	Fire & Smoke	35600
26	36	1440	1458	265	60	30	Green	34700
27	46	1450	1508	290	10	25	Green	36100
28	X56	1510	1519	355	10	20	Green	31750
29	8	1530	1531					35100
30	18	1545	1537					—

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-5-75 Atmospheric Pressure 29.2 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	23	1200	1159					35800
17	33	1215	1213					35500
18	43	1230	1226	525	80	40	Green	35600
19	X53	1250	1240	465	60	30	Green	35350
20	X63	1305	1250	480	50	40	Green	35450
21	—	1320						
22	5	1335	1315					35550
23	15	1350	1328	500	>90	10	Good	34900
24	25	1405	1350	380	>90	5	Good	35400
25	35	1425	1404	520	>90	10	Good	35700
26	45	1440	1422	460	30	55	Green	35250
27	X55	1450	1440	770	70	40	Fire & Smoke	35850
28	7	1510	1452	690	>90	10	Good	35350
29	17	1530	1502	480	80	30	Fire & Smoke	35150
30	27	1545	1522	980	70	25	Fire & Smoke	34700
	37		1614	440	80	20	Fire & Smoke	—
	47		1625	558	75	25		—

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-6-75 Atmospheric Pressure 29.1 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	27	0800	0810					
2	37	0815	0820					36150
3	47	0830	0830					35600
4	X57	0850	0950	540	90	15	Good	35700
5	9	0905	1004	690	90	10	Good	35350
6	19	0920	1027	515	>90	5	Good	35500
7	29	0935	1049	530	60	40	Green	36050
8	39	0950	1100	575	>90	30	Good	34850
9	49	1005	1114	560	30	85	Green	35650
10	X59	1020	1127	660	90	20	Fire & Smoke	35150
11	2	1035	1141	450	>90	15	Good	35050
12	12	1055	1150	830	80	30	Fire & Smoke	34950
13	22	1110	1201	480	90	15	Fire & Smoke	34950
14	32	1125	1215					34950
15	42	1145	1230					34750

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-6-75 Atmospheric Pressure 29.1 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	X52	1200	1244					34950
17	X62	1215	1300					35500
18	—	1230						
19	4	1250	1316	1110	90	0	Good	34900
20	14	1305	1338	480	>90	10	Good	30800
21	24	1320	1345	375	>90	0	Good	34350
22	34	1335	1355	650	>90	5	Good	34600
23	44	1350	1410	790	60	45	Green	34700
24	X54	1405	1420	810	60	50	Green	35250
25	X64	1425	1430	685	50	60	Green	35300
26	6	1440	1458	930	90	0	Good	35500
27	16	1450	1510	1105	40	80	Green	35500
28	26	1510	1522	660	90	5	Good	34700
29	36	1530	1542	645	40	85	Green	34400
30	46	1545						34450

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-9-75 Atmospheric Pressure 29.67 Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	16	0800	0817					—
2	26	0815	0830					34550
3	36	0830	0838					34850
4	46	0850	0853					34750
5	X56	0905	0923					34450
6	8	0920	0942					34450
7	18	0935	0957					34850
8	28	0950	1013					34750
9	38	1005	1025					34500
10	48	1020	1038					35000
11	X58	1035	1047	550	70	30	Green	34950
12	—	1055						
13	1	1110	1058	230	60	20	Green	35000
14	11	1125	1115	250	80	5	Good	35050
15	21	1145	1128	170	50	10	Green	33200

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-9-75 Atmospheric Pressure 29.67 Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	31	1200	1139	460	70	20	Good	31850
17	41	1215	1153	750	70	60	Green	35300
18	X51	1230	1206	520	80	20	Good	35100
19	X61	1250	1314					35050
20	3	1305	1322					34900
21	13	1320	1335					35050
22	23	1335	1345					35050
23	33	1350	1357	450	80	20	Good	34950
24	43	1405	1403					34950
25	X53	1425	1422					34700
26	X63	1440	1432					34950
27	—	1450						
28	5	1510	1447	540	50	20	Good	33650
29	15	1530	1502	480	50	20	Green	35300
30	25	1545	1530					34950

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-10-75 Atmospheric Pressure 29.85 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	25	0800	0823					
2	35	0815	0848					35800
3	45	0830	0855					34800
4	X55	0850	0933	350	50	20	Green	34900
5	7	0905	0940	200	70	10	Green	—
6	17	0920	0950	410	40	20	Green	35550
7	27	0935	1000	390	80	0	Good	34850
8	37	0950	1014	370	40	30	Green	35600
9	47	1005	1024					35550
10	X57	1020	1036					35300
11	9	1035	1051					34800
12	19	1055	1058	440	40	20	Green	—
13	29	1110	1110	280	40	20	Green	34850
14	39	1125	1118	520	30	30	Green	35200
15	49	1145	1126	360	30	40	Green	35550

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-10-75 Atmospheric Pressure 29.85 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	X59	1200	1210					35150
17	2	1215	1215					35100
18	12	1230	1236					34750
19	22	1250	1255					34850
20	32	1305	1305					35100
21	42	1320	1315					35000
22	X52	1335	1330					34850
23	X62	1350	1342	400	30	30	Fire & Smoke	34950
24	—	1405						
25	4	1425	1350	430	80	0	Good	34500
26	14	1440	1403	520	50	20	Fire & Smoke	35150
27	24	1450	1419	210	60	10	Fire & Smoke	35050
28	34	1510	1430	210	80	10	Good	36700
29	44	1530	1458	270	20	40	Green	—
30	X54	1545	1510	320	80	10	Good	35100
31	X64	1600	1612					
32	6	1615	1639	300	80	10	Good	
33	16	1630	1657	250	20	40	Green	

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-11-75 Atmospheric Pressure 29.15 Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X54	0800	0816					—
2	X64	0815	0828					36450
3	6	0830	0843					36250
4	16	0850	0905					35600
5	26	0905	0938	340	60	40	Good	36500
6	36	0920	1000					36300
7	46	0935	1004					36000
8	X56	0950	1025					36000
9	8	1005	1050					36350
10	18	1020	1102					36200
11	28	1035	1111					—
12	38	1055	1122	890	40	40	Green	36200
13	48	1110	1135	500	60	20	Good	36000
14	X58	1125	1202					36750
15	—	1145						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-11-75 Atmospheric Pressure 29.55 Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	1	1200	1250					36150
17	11	1215	1302					36150
18	21	1230	1310					35600
19	31	1250	1338					34500
20	41	1305	1347	340	50	40	Green	36650
21	X51	1320	1408	650	80	20	Good	36500
22	X61	1335	1423	450	50	40	Green	36550
23	3	1350	1434					37050
24	13	1405	1445	650	50	20	Fire & Smoke	35750
25	23	1425	1455	630	80	10	Good	35700
26	33	1440	1508	600	90	10	Good	36250
27	43	1450	1516	650	30	40	Fire & Smoke	36050
28	X53	1510	1528	630	90	10	Good	36150
29	X63	1530	1538	610	90	10	Good	35300
30	—	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-12-75 Atmospheric Pressure ______ Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	—	0800						
2	5	0815	0819					36200
3	15	0830	0841					34850
4	25	0850	0850					34450
5	35	0905	0932					—
6	45	0920	0944					—
7	X55	0935	1000					37050
8	7	0950	1014					33900
9	17	1005	1037	520	50	20	Green	33800
10	27	1020	1046	550	70	20	Green	34350
11	37	1035	1101	580	50	40	Green	37200
12	47	1055	1114	810	70	20	Green	36900
13	X57	1110	1126	490	90	10	Good	36750
14	9	1125	1214					35200
15	19	1145	1226					35850

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/12/75 Atmospheric Pressure ______ Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	29	1200	1235					34,750
17	39	1215	1245	620	60	20	Green	33,100
18	49	1230	1256					35,850
19	X59	1250	1315					32,700
20	2	1305	1330	650	90	<10	Good	34,450
21	12	1320	1342	330	40	20	Fire & Smoke	34,600
22	22	1335	1350	460	60	40	Green	35,000
23	32	1350	1410	450	50	20	Green	34,850
24	42	1405	1418	480	90	<10	Good	35,200
25	X52	1425	1434	300	90	<10	Good	34,700
26	X62	1440	1445	420	80	10	Good	34,950
27	—	1450						
28	4	1510	1452	780	70	20	Green	34,500
29	14	1530	1510	650	80	20	Good	35,200
30	24	1545	1521	620	80	20	Good	35,050
	34	1600	1608	450	90	<10	Good	
	44	1615	1623	620	10	60	Green	

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/12/75 Atmospheric Pressure 29.30 Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X54	1630	1636	650	90	<10	Good	
2	X64	1645	1651	620	60	<10	Good	
3	6	1700	1710		0			
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/18/75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	41	0800	0846					
2	X51	0815	0853					36,750
3	X61	0830	0905					35,750
4	3	0850	0916				Green	36,050
5	13	0905	0929	280			Fire & Smoke	35,750
6	23	0920	0942	407			Fire & Smoke	34,750
7	33	0935	0950	342			Fire & Smoke	35,500
8	43	0950	1006	519			Fire & Smoke	36,250
9	X53	1005	1025	282			Fire & Smoke	34,800
10	X63	1020	1037	118			Fire & Smoke	-----
11	5	1035	1048	403			Green	36,750
12	15	1055	1100	387			Green	35,650
13	25	1110	1111	425			Fire & Smoke	33,200
14	35	1125	1124	328			Fire & Smoke	35,250
15		1145						

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/18/75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16		1200						
17		1215						
18	17	1230	1250	220			Green	34,800
19	27	1250	1300	440			Green	34,800
20	37	1305	1313	414			Fire & Smoke	35,000
21	47	1320	1333	438			Green	35,050
22	X57	1335	1344	538			Fire & Smoke	34,650
23	9	1350	1350	561			Fire & Smoke	35,200
24	19	1405	1410	322			Green	---
25	29	1425	1422	303			Green	---
26	39	1440	1436	455			Fire & Smoke	34,300
27	49	1450	1447	364			Fire & Smoke	34,950
28	X59	1510	1507	475			Green	35,300
29	2	1530	1518	590			Fire & Smoke	35,900
30		1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/20/75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1		0800						
2		0815						
3	41	0830	0900	388			Good	34,300
4	X51	0850	0926	420			Fire & Smoke	-----
5	X61	0905	0935	384			Fire & Smoke	34,350
6	3	0920	0953	427			Green	34,600
7	13	0935	1005	506			Fire & Smoke	33,300
8	23	0950	1017	386			Fire & Smoke	34,700
9	33	1005	1032	384			Green	34,500
10	43	1020	1045	200			Good	34,000
11	X53	1035	1107	342			Fire & Smoke	34,900
12	X63	1055	1115	341			Fire & Smoke	32,850
13	5	1110	1125	396			Green	34,350
14	15	1125	1137	580			Green	33,650
15	25	1145	1148	383			Fire & Smoke	33,750

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/20/75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16		1200						
17		1215						
18		1230						
19	7	1250	1332	524			Fire & Smoke	33,100
20	17	1305	1345	650			Green	34,300
21	27	1320	1358	338			Green	34,550
22	37	1335	1415	368			Fire & Smoke	34,300
23	47	1350	1434	475			Green	35,150
24	X57	1405	1449				Fire & Smoke	34,950
25	19	1425	1500	360			Fire & Smoke	35,250
26	19	1440	1510	591			Fire & Smoke	33,850
27	29	1450	1520	557			Green	-----
28	39	1510	1530	400			Green	34,450
29		1530						
30		1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/24/75 Atmospheric Pressure ______ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	28	0800	0823					
2	38	0815	0846					38,800
3	48	0830	0858					38,500
4	X58	0850	0921					-----
5	---	0905						
6	1	0920	0943	355	50	40	Green	38,050
7	11	0935	1013	320	0	0	Fire & Smoke	35,050
8	21	0950	1025	360	0	0	Fire & Smoke	34,400
9	31	1005	1036					36,100
10	41	1020	1052	130	>90	0	Good	35,450
11	X51	1035	1103	485	>90	0	Good	35,200
12	X61	1055	1117	230	>90	0	Good	-----
13	3	1110	1132	80	20	75	Green	34,800
14	13	1125	1146	115	50	60	Green	35,350
15	23	1145	1158	200	20	60	Green	36,350

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/24/75 Atmospheric Pressure 30.0 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	33	1200	1211					34,900
17	43	1215	1224					-----
18	X53	1230	1330	310	>90	0	Good	-----
19	X63	1250	1340	280	70	50	Green	35,550
20	---	1305						-----
21	5	1320	1348	340	30	80	Green	35,750
22	15	1335	1404	420	30	60	Green	35,500
23	25	1350	1412					35,000
24	35	1405	1426	360	50	60	Green	35,750
25	45	1425	1438	400	80	20	Good	35,000
26	X55	1440	1448					34,350
27	7	1450	1501					35,250
28	17	1510	1512					-----
29	27	1530	1523					-----
30	37	1545	1531					35,100

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/25/75 Atmospheric Pressure _____ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	37	0800	0820					
2	47	0815	0828					34,400
3	X57	0830	0840					34,350
4	9	0850	0912	65	20	60	Green	-----
5	19	0905	0946	160	20	60	Green	35,250
6	29	0920	0955	300	20	60	Green	32,700
7	39	0935	1005	120	70	40	Fire & Smoke	32,550
8	49	0950	1018	120	40	40	Green	34,500
9	X59	1005	1029	100	90	10	Good	34,350
10	2	1020	1040	150	20	60	Green	34,700
11	12	1035	1053	180	60	10	Fire & Smoke	35,250
12	22	1055	1105	280	10	40	Green	34,000
13	32	1110	1120	310	10	40	Green	34,250
14	42	1125	1133					34,450
15	X52	1145	1146					34,400

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/25/75 Atmospheric Pressure ______ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	X62	1200	1243	580	5	100	Green	34,550
17	—	1215						
18	4	1230	1253	620	20	60	Green	34,950
19	14	1250	1255	140	90	10	Good	-----
20	24	1305	1310	190	50	60	Green	34,700
21	34	1320	1332	60	50	40	Green	34,450
22	44	1335	1342	170	>90	5	Fire & Smoke	34,200
23	X54	1350	1353	220	90	10	Fire & Smoke	34,400
24	X64	1405	1403	180	40	40	Green	34,450
25	6	1425	1417	200	60	30	Green	34,350
26	16	1440	1428	260	20	60	Green	34,050
27	26	1450	1458	200	80	20	Fire & Smoke	34,200
28	36	1510	1454	210	>90	10	Good	34,500
29	46	1530	1505					32,800
30	X56	1545	1516					34,400

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/26/75 Atmospheric Pressure 29.74 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X56	0800	0815					
2	8	0815	0832					32,950
3	18	0830	0846					34,850
4	28	0850	0900	350	40	20	Green	-----
5	38	0905	0915	100	80	10	Good	-----
6	48	0920	0925	310	40	30	Green	31,050
7	X58	0935	0937	190	>90	0	Good	33,850
8	---	0950						
9	1	1005	1016	270	50	30	Fire & Smoke	34,550
10	11	1020	1022	290	60	10	Green	35,000
11	21	1035	1039	250	90	5	Good	34,900
12	31	1055	1049	310	30	40	Green	34,750
13	41	1110	1102	400	>90	5	Good	32,050
14	X51	1125	1125	220	>90	0	Good	32,800
15	X61	1145	1139	90				33,000

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/26/75 Atmospheric Pressure 29.74 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	3	1200	1232					32,550
17	13	1215	1243					35,500
18	23	1230	1255					35,750
19	33	1250	1310	480	30	40	Green	35,450
20	43	1305	1332	330	>90	0	Good	35,600
21	X53	1320	1337	220	90	0	Good	35,700
22	X63	1335	1345	270	90	0	Good	33,850
23	---	1350						
24	5	1405	1355	280	20	40	Green	35,100
25	15	1425	1408	280	60	20	Green	31,650
26	25	1440	1428	360	90	0	Good	35,800
27	35	1450	1438	250	50	10	Green	34,650
28	45	1510	1458	170	20	60	Green	34,850
29	X55	1530	1504	350	80	10	Good	33,850
30	7	1545	1530	400	<10	60	Green	34,450

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/27/75 Atmospheric Pressure 29.70 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	7	0800	0825					
2	17	0815	0846					36,000
3	27	0830	0910					35,700
4	37	0850	0919					35,900
5	47	0905	0930					34,400
6	X57	0920	0950					34,600
7	9	0935	1016					34,200
8	19	0950	1020	220	30	30	Green	33,500
9	29	1005	1040	170	20	40	Green	34,800
10	39	1020	1056	240	50	0	Good	34,650
11	49	1035	1108	200	70	20	Green	34,250
12	X59	1055	1120	190	80	0	Good	34,750
13	2	1110	1135	240	30	30	Green	34,800
14	12	1125	1147	450	20	40	Good	33,700
15	22	1145	1158	270	30	30	Green	33,500

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/27/75 **Atmospheric Pressure** 29.70 **Initial:** TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	32	1200	1205					33,300
17	42	1215	1215					32,450
18	X52	1230	1225					34,700
19	X62	1250	1238					34,600
20	—	1305						
21	4	1320	1325	260	<10	20	Green	33,800
22	14	1335	1340	350	90	10	Good	34,350
23	24	1350	1405	170	70	10	Fire & Smoke	34,900
24	34	1405	1424	320	30	20	Green	33,300
25	44	1425	1435					34,250
26	X54	1440	1445					35,400
27	X64	1450	1455					33,000
28	6	1510	1511					35,100
29	16	1530	1528					34,000
30	26	1545	1538					34,700

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/30/75 Atmospheric Pressure 29.82 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	34	0800	0810					
2	44	0815	0826					
3	X54	0830	0837	80	95	0	Good	
4	X64	0850	0854	200	90	5	Fire & Smoke	39,100
5	6	0905	0905	220	20	20	Green	35,550
6	16	0920	0920	210	60	10	Fire & Smoke	29,750
7	26	0935	0943	300	60	10	Fire & Smoke	35,350
8	36	0950	0954	240	70	5	Fire & Smoke	-----
9	46	1005	1003	270	80	10	Fire & Smoke	34,250
10	X56	1020	1011	230	80	10	Good	32,900
11	---	1035						
12	8	1055	1027	340	20	40	Green	32,850
13	18	1110	1045	270	30	20	Green	33,000
14	28	1125	1056	310	10	50	Green	-----
15	38	1145	1141	320				34,050

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6/30/75 Atmospheric Pressure 29.82 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	48	1200	1155					35,200
17	X58	1215	1203					33,100
18	—	1230						
19	1	1250	1213					32,000
20	11	1305	1220	370	95	0	Good	31,150
21	21	1320	1247	280	60	30	Green	33,300
22	31	1335	1320	390	50	40	Green	33,400
23	41	1350	1330	120	30	50	Green	34,850
24	X51	1405	1350	150	90	0	Good	34,400
25	X61	1425	1402	230	80	0	Good	35,800
26	3	1440	1415	280	<10	60	Green	33,800
27	13	1450	1423	230	60	30	Fire & Smoke	33,800
28	23	1510	1448	80	50	30	Green	33,450
29	33	1530	1458	540	10	60	Green	-----
30	43	1545	1513	360	60	20	Green	-----

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7/1/75 Atmospheric Pressure 29.8 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	43	0800	0837					
2	X53	0815	0851	150	90	0	Good	36,100
3	X63	0830	0912	90	80	0	Good	35,050
4	—	0850						
5	5	0905	0925					35,650
6	15	0920	0935					35,850
7	25	0935	0958	140	10		Green	35,350
8	35	0950	1015		20		Good	35,550
9	45	1005	1018		0		Green	35,800
10	X55	1020	1029					35,650
11	7	1035	1042					35,650
12	17	1055	1103					36,000
13	27	1110	1119					35,800
14	37	1125	1126					35,150
15	47	1145	1140					35,850

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7/2/75 Atmospheric Pressure 29.75 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	—	0800						
2	4	0815	0822	70	95	0	Good	38,250
3	14	0830	0834	125	0		Green	35,650
4	24	0850	0921	60	30	50	Green	35,050
5	34	0905	0928	100	30	40	Green	35,250
6	44	0920	0946	150	30	30	Green	34,900
7	X54	0935	0954					30,350
8	X64	0950	1005					35,500
9	6	1005	1014					35,400
10	16	1020	1030					34,700
11	26	1035	1037					34,350
12	36	1055	1100					34,800
13	46	1110	1110					33,250
14	X56	1125	1123					34,700
15	8	1145	1139					34,350

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7/2/75 Atmospheric Pressure 29.75 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	18	1200	1300					34,750
17	28	1215	1306					34,500
18	38	1230	1313					34,500
19	48	1250	1327	260	80	10	Good	33,300
20	X58	1305	1335	350	90	0	Good	-----
21	—	1320						
22	1	1335	1345					34,800
23	11	1350	1355	270	90	0	Good	35,000
24	21	1405	1415	460	20	50	Green	34,850
25	31	1425	1442	360	50	40	Green	34,950
26	41	1440	1455	320	50	20	Green	35,100
27	X51	1450	1505	280	90	5	Good	35,600
28	X61	1510	1516	480	80	10	Fire & Smoke	35,200
29	3	1530	1535	320	70	40	Green	35,150
30	13	1545	1545	280	60	20	Green	34,950

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-3-75 Atmospheric Pressure 29.58 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	13	0800	0838	150	95	0	Good	—
2	23	0815	0844	220	60	0	Good	36100
3	33	0830	0903	230	60	20	Fire & Smoke	36200
4	43	0850	0924					35300
5	X53	0905	0939	260	50	20	Green	35500
6	X63	0920	0954	320	90	0	Good	35550
7	—	0935						
8	5	0950	1006	170	90	0	Good	34600
9	15	1005	1027	320	30	60	Green	34700
10	25	1020	1120					35200
11	35	1035	1127					34900
12	45	1055	1136					35650
13	X55	1110	1153					36000
14	7	1125	1205					35300
15	17	1145	1216					35700

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-8-75 Atmospheric Pressure ______ Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	49	0800	0820					
2	X59	0815	0832					33250
3	2	0830	0922					33850
4	12	0850	0928	0	80	10	Good	34550
5	22	0905	0945	180	95	0	Good	34850
6	32	0920						32400
7	42	0935	1006	140	80	0	Good	33850
8	X52	0950	1017	170	80	0	Good	34900
9	X62	1005	1033	240	90	0	Good	34350
10	—	1020						
11	4	1035	1043	170	80	0	Good	32000
12	14	1055	1056	260	60	20	Green	34250
13	24	1110	1141	240	(90)	0	(Good)	34000
14	34	1125	1200		(90)	0	(Good)	30900
15	44	1145	1213		(90)	0	(Good)	33450

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-8-75 Atmospheric Pressure ______ Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	X54	1200	1245	180	90	0	Good	33600
17	X64	1215	1252	380	90	0	Good	35050
18	6	1230	1305	220	80	10	Fire & Smoke	34800
19	16	1250	1320	360	70	10	Fire & Smoke	33200
20	26	1305	1335	300	90	0	Good	33900
21	36	1320	1345	350	80	5	Good	—
22	46	1335	1403	240	80	5	Good	34350
23	X56	1350	1421	290	90	0	Fire & Smoke	28050
24	8	1405	1440	250	60	30	Green	32850
25	18	1425	1449	300	95	0	Good	35050
26	28	1440	1501					34200
27	38	1450	1510					33150
28	48	1510	1521					34400
29	X58	1530	1530					33750
30	—	1545						

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-9-75 Atmospheric Pressure 29.40 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	—	0800						
2	1	0815	0825					37700
3	11	0830	0834					
4	21	0850	0845	160	80	10	Fire & Smoke	38400
5	31	0905	0910	180	60	10	Fire & Smoke	38500
6	41	0920	0935	260	20	50	Green	35650
7	X51	0935	0950	430	90	0	Good	36050
8	X61	0950	1015	220	95	0	Good	—
9	3	1005	1028	180	80	20	Fire & Smoke	35450
10	13	1020	1038	210	10	70	Green	34900
11	23	1035	1046	380	50	50	Green	34900
12	33	1055	1057	190	40	30	Green	35200
13	43	1110	1105	260	20		Green	34850
14	X53	1125	1112					34450
15	X63	1145	1125	180	80	0	Good	35750

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-9-75 Atmospheric Pressure 29.40 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	—	1200						35100
17	5	1215	1207					35700
18	15	1230	1220					35150
19	25	1250	1232					35050
20	35	1305	1250					34950
21	45	1320	1302	200	70	10	Good	34800
22	X55	1335	1344	340	10	80	Green	34900
23	7	1350	1357	330	60	10	Fire & Smoke	34300
24	17	1405	1408	420	5	80	Green	34600
25	27	1425	1420	250	95	5	Good	34700
26	37	1440	1428	380	60	20	Fire & Smoke	35300
27	47	1450	1435	410	80	0	Good	—
28	X57	1510	1500					34850
29	9	1530	1513					—
30	19	1545	1518					

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-10-75 Atmospheric Pressure 29.34 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	19	0800	0811					
2	29	0815	0841					35300
3	39	0830	0858					34800
4	49	0850	0910					32700
5	X 59	0905	0925	250	95	0	Good	33000
6	2	0920	0940	230	90	5	Good	33500
7	12	0935	0953	280	50	30	Green	35000
8	22	0950	1017	270	90	5	Good	36650
9	32	1005	1024	290			Fire & Smoke	33100
10	42	1020	1045					34150
11	X 52	1035	1057	190	95	0	Good	34150
12	X 62	1055	1107	210	95	0	Good	34500
13	—	1110						
14	4	1125	1120	300	80	5	Good	33750
15	14	1145	1130				Green	33900

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-10-75 Atmospheric Pressure 29.34 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	24	1200	1207					—
17	34	1215	1221					—
18	44	1230	1230					—
19	X54	1250	1242	240	70	10	Good	33850
20	X64	1305	1252	360	70	20	Fire & Smoke	34350
21	6	1320	1300	820			Green	33950
22	16	1335	1325					34600
23	26	1350	1337	670	50	30	Fire & Smoke	34650
24	36	1405	1358	570	50	20	Fire & Smoke	33800
25	46	1425	1410	520	70	10	Fire & Smoke	33550
26	X56	1440	1424	730	90	0	Good	35300
27	8	1450	1436	850	10	60	Green	35700
28	18	1510	1452	910	40	40	Green	35150
29	28	1530	1505	580	50	30	Green	35550
30	38	1545	1518					34950

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-14-75 Atmospheric Pressure ______ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	17	0800	0815	250	90	5	Good	
2	27	0815	0825	210	80	5	Good	33600
3	37	0830	0840	160	80	10	Good	32500
4	47	0850	0907	350	20	0	Green	32700
5	X57	0905	0923	300	80	10	Good	32850
6	9	0920	0932	510	20	60	Green	34450
7	19	0935	0950	490	60	20	Fire & Smoke	32350
8	29	0950	1022	270	60	0	Good	31850
9	39	1005	1033	450	60	30	Fire & Smoke	33000
10	49	1020	1049	210	0	0	Green	33800
11	X59	1035	1058	460	30	60	Green	33400
12	2	1055	1110	350	80	5	Good	31950
13	12	1110	1120	610	50	15	Fire & Smoke	32100
14	22	1125	1132	890	0	0	Fire & Smoke	33350
15	32	1145	1143	700	0	0	Fire & Smoke	32950

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-14-75 Atmospheric Pressure ______ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	42	1200	1230	620	50	40	Fire & Smoke	32900
17	X52	1215	1245	550	30	50	Green	33100
18	X62	1230	1255	900	50	40	Fire & Smoke	—
19	—	1250						
20	4	1305	1318	350	80	5	Good	—
21	14	1320	1338	390	80	5	Good	—
22	24	1335	1347	540	80	0	Good	33150
23	34	1350	1358	1100	80	5	Good	32700
24	44	1405	1410	330	50	40	Fire & Smoke	30400
25	X54	1425	1424	380	50	20	Fire & Smoke	33050
26	X64	1440	1431					33700
27	6	1450	1445					33150
28	16	1510	1502					32550
29	26	1530	1514					32850
30	36	1545	1526					31450

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-15-75 Atmospheric Pressure ______ Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	36	0800	0817					
2	46	0815	0830	100	90	0	Good	33300
3	X56	0830	0847	250	80	0	Good	32950
4	8	0850	0920	120	60	20	Fire & Smoke	33700
5	18	0905	0929	150	90	0	Good	33500
6	28	0920	0946	160	90	20	Fire & Smoke	34000
7	38	0935	0958	210	95	0	Good	33750
8	48	0950	1027					33650
9	X58	1005	1036	190	95	0	Good	31950
10	—	1020						
11	1	1035	1054	220	95	0	Good	34650
12	11	1055	1104	190	20	40	Green	33300
13	21	1110	1125	190	80	0	Good	32250
14	31	1125	1140	220	75	10	Good	34250
15	41	1145	1156	610	30	30	Green	32450

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-15-75 Atmospheric Pressure ______ Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	X51	1200	1300					33750
17	X61	1215	1306	250	90	0	Good	33550
18	3	1230	1325	270	60	10	Fire & Smoke	33050
19	13	1250	1333	510	80	5	Good	35050
20	23	1305	1345	240	90	5	Good	34350
21	33	1320	1404	270	90	0	Good	32150
22	43	1335	1409	580	95	0	Good	34250
23	X53	1350	1425					33050
24	X63	1405	1440					33700
25	—	1425						—
26	5	1440	1455					33450
27	15	1450	1507					33450
28	25	1510	1530					32600
29	35	1530	1535					33000
30	45	1545	1547					32750

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-16-75 Atmospheric Pressure 29.70 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	45	0800	0824	150	90	0	Good	—
2	X55	0815	0840	170	90	10	Good	—
3	7	0830	0853	140	30	40	Green	35450
4	17	0850	0934	270	90	0	Good	33400
5	27	0905	0941	160	80	10	Fire & Smoke	35700
6	37	0920	0952	120	95	0	Good	35650
7	47	0935	1006	170	80	10	Fire & Smoke	33800
8	X57	0950	1035	420	90	5	Good	—
9	9	1005	1050	260	20	40	Green	35850
10	19	1020	1109	150	95	0	Good	34450
11	29	1035	1123	320	95	0	Good	33500
12	39	1055	1137	370	95	0	Good	34200
13	49	1110	1150	420				35250
14	X59	1125	1203	490	95	0	Good	35550
15	2	1145	1217	360	90	5	Good	35400

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-16-75 Atmospheric Pressure 29.70 Initial: TAL

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	12	1200	1225					35600
17	22	1215	1233					34650
18	32	1230	1317					34150
19	42	1250	1330	710	95	0	Good	34000
20	X52	1305	1340	450	95	0	Good	32150
21	X62	1320	1348	430	95	0	Good	33200
22	—	1335						
23	4	1350	1403					33200
24	14	1405	1422					33900
25	24	1425	1432					34300
26	34	1440	1440	540	95	0	Good	33400
27	44	1450	1449	350	95	0	Good	33900
28	X54	1510	1502	410	95	0	Good	34550
29	X64	1530	1511					32050
30	6	1545	1535					35000

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-17-75 Atmospheric Pressure ______ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	6	0800	0810	240	70	10	Good	
2	16	0815	0824	210	80	5	Good	
3	26	0830	0840	440	50	35	Fire & Smoke	
4	36	0850	0850	400	70	5	Good	35250
5	46	0905	0900					34100
6	X56	0920	0910					34650
7	8	0935	0958	310	20	70	Green	34300
8	18	0950	1010	320	60	10	Good	34450
9	28	1005	1022	360	50	5	Good	35000
10	38	1020	1034	170	70	10	Good	34450
11	48	1035	1045					34350
12	X58	1055	1056					35200
13	—	1110						
14	1	1125	1121					32950
15	11	1145	1132					34800

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-17-75 Atmospheric Pressure ____ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	21	1200	1230					35850
17	31	1215	1237					34550
18	41	1230	1245	720	70	10	Good	35150
19	X51	1250	1300	630	20	45	Green	33800
20	X61	1305	1315	420	70	5	Good	34450
21	3	1320	1326	240	30	45	Green	34300
22	13	1335	1342					34450
23	23	1350	1355					34200
24	33	1405	1410					34850
25	43	1425	1424					34300
26	X53	1440	1441					34400
27	X63	1450	1454	260	70	10	Good	33250
28	—	1510						
29	5	1530	1514	700	90	5	Good	35700
30	15	1545	1528	420	20	70	Green	35900

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-18-75 Atmospheric Pressure ______ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	15	0800	0805	410	50	20	Fire & Smoke	
2	25	0816	0830	450	30	45	Green	35450
3	35	0832	0840	500	90	5	Good	---
4	45	0848	0852	750	80	5	Good	---
5	X55	0904	0907	320	80	5	Good	36200
6	7	0920	0922					34600
7	17	0936	1017	410	90	5	Good	35700
8	27	0952	1024	940	80	10	Good	34800
9	37	1008	1030	650	90	5	Good	35200
10	47	1024	1039	430	20	60	Green	34750
11	X57	1040	1048	660	80	5	Good	35000
12	9	1056	1142					34350
13	19	1112	1150					33500
14	29	1128	1205					35300
15	39	1144	1215	440	80	5	Good	34750

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-18-75 Atmospheric Pressure ______ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	49	1200	1220	950	90	0	Good	34500
17	X59	1216	1227	510	80	5	Good	34650
18	2	1232	1239	430	50	15	Fire & Smoke	34400
19	12	1248	1250	520	10	80	Green	34700
20	22	1304	1304					34700
21	32	1320	1315					34500
22	42	1336	1326					35600
23	X52	1352	1332					34750
24	X62	1408	1353					34600
25	—	1424						
26	4	1440	1425					34850
27	14	1456	1435					34650
28	24	1512	1440					34350
29	34	1528	1454					35200
30	44	1544	1529					34250

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-21-75 Atmospheric Pressure ____ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	14	0800	0804					
2	24	0815	0825					34750
3	34	0830	0845					35950
4	44	0850	0904					35450
5	X54	0905	0912					33800
6	X64	0920	0920					35100
7	6	0935	0934					34750
8	16	0950	0943					36700
9	26	1005	0950					35700
10	36	1020	0955					34400
11	46	1035	1013					37550
12	X56	1055	1025	680	20	20	Fire & Smoke	36600
13	8	1110	1047	420	5	90	Green	36750
14	18	1125	1059	360	20	60	Green	34350
15	28	1145	1110	400	30	60	Fire & Smoke	34500

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-21-75 Atmospheric Pressure 29.48 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	38	1200	1210	480	40	20	Fire & Smoke	34950
17	48	1215	1215	420	10	80	Green	34450
18	X58	1230	1225					35100
19	--	1250						
20	1	1305	1236					35000
21	11	1320	1243					34750
22	21	1335	1300					34850
23	31	1350	1356					36150
24	41	1405	1409					30700
25	X51	1425	1415					36100
26	X61	1440	1435	450	70	5	Good	35250
27	3	1450	1440	420	50	50	Fire & Smoke	36200
28	13	1510	1454	480	5	100	Green	34960
29	23	1530	1507	450	5	100	Green	35850
30	33	1545	1517	470	90	0	Good	34050

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-22-75 Atmospheric Pressure 29.5 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	33	0800	0811	270	0	5	Good	
2	43	0815	0823	330	10	65	Green	
3	X53	0830	0845	370	10	25	Fire & Smoke	
4	X63	0850	0855	580	80	5	Good	
5	--	0905						
6	5	0920	0906	170	80	5	Good	
7	15	0935						
8	25	0950						
9	35	1005						36450
10	45	1020	1020	490	10	70	Green	37750
11	X55	1035	1035	320	40	40	Fire & Smoke	35300
12	7	1055	1051	200	40	40	Fire & Smoke	34350
13	17	1110	1102	130	70	5	Good	34850
14	27	1125						35250
15	37	1145						35200

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-22-75 Atmospheric Pressure 29.5 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	47	1200						35300
17	X57	1215	1236	510	80	5	Good	36250
18	9	1230	1247	570	80	5	Good	34,950
19	19	1250	1255	360	20	80	Green	35350
20	29	1305	1306	390	20	60	Fire & Smoke	35200
21	39	1320						35350
22	49	1335						35300
23	X59	1350	1342	740	10	50	Green	33850
24	2	1405	1359	370	90	0	Good	35000
25	12	1425	1415	780	10	80	Green	34800
26	22	1440	1445	520	10	80	Green	34700
27	32	1450	1454	460	40	50	Fire & Smoke	34800
28	42	1510						34900
29	X52	1530						35050
30	X62	1545						35600

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-23-75 Atmospheric Pressure ______ Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X62	0800						
2	--	0815						
3	4	0830						34750
4	14	0850	0922	400	80	0	Good	35200
5	24	0905	0936	400	60	20	Green	35100
6	34	0920	0947	500	80	0	Good	35900
7	44	0935	0957	450	40	20	Fire & Smoke	35650
8	X54	0950						35450
9	X64	1005						36000
10	6	1020						34150
11	16	1035						35400
12	26	1055						35600
13	36	1110						34950
14	46	1125						35000
15	X56	1145						34100

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7/23/75 Atmospheric Pressure ______ Initial: GJS

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	8	1200						34950
17	18	1215						35200
18	28	1230	1303	425	80	0	Good	35450
19	38	1250	1314	600	80	0	Good	35200
20	48	1305	1326	500	40	20	Fire & Smoke	35050
21	X58	1320	1337	380	80	0	Good	34700
22	—	1335						
23	1	1350						33750
24	11	1405						34300
25	21	1425						34950
26	31	1440						33900
27	41	1450						35250
28	X51	1510						35150
29	X61	1530						35150
30	3	1545						—

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-3-75 Atmospheric Pressure 29.4 Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	36	1200						
17	46	1215						
18	X56	1230						
19	8	1250						
20	18	1305	1324	660	80	30	Good	
21	28	1320	1336	170	45	50	Fire & Smoke	
22	38	1335	1343					
23	48	1350						
24	X58	1405						
25	—	1425						
26	1	1440						
27	11	1450						
28	21	1510						
29	31	1530						
30	41	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-4-75 Atmospheric Pressure ____ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	41	0800	0812		0	0	Fire & Smoke	
2	X51	0815	0829	Calm	40	40	Fire & Smoke	
3	X61	0830	0851	Calm	90	10	Good	
4	3	0850	0901	210	5	60	Green	
5	13	0905	0939	Calm	50	40	Fire & Smoke	
6	23	0920	0953	430	85	20	Good	
7	33	0935						
8	43	0950						
9	X53	1005						
10	X63	1020						
11	—	1035						
12	5	1055						
13	15	1110						
14	25	1125						
15	35	1145						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-4-75 Atmospheric Pressure ______ Initial: RJP

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	45	1200						
17	X55	1215					Fire & Smoke	
18	7	1230					Good	
19	17	1250	1300				Fire & Smoke	
20	27	1305	1306				Fire & Smoke	
21	37	1320	1314				Green	
22	47	1335	1325				Fire & Smoke	
23	X57	1350	1354				Good	
24	9	1405	1403				Green	
25	19	1425	1410				Green	
26	29	1440	1425	410	15	65	Green	
27	39	1450	1434	720			Green	
28	49	1510	1503	180	15	60	Green	
29	X59	1530	1515	220			Good	
30	2	1545	1527	310	15	80	Green	

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-5-75 Atmospheric Pressure 29.52 Initial: RGK

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1		0800						
2		0815						
3		0830						
4	32	0850	0904	222	70	5	Fire & Smoke	
5	42	0905	0916	121	70	5	Fire & Smoke	
6	X52	0920	0930	150	80	<5	Good	
7	X62	0935						
8	—	0950						
9	4	1005						
10	14	1020						
11	24	1035						
12	34	1055						
13	44	1110						
14	X54	1125						
15	X64	1145						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/5/75 Atmospheric Pressure 29.38 Initial: RGK

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	6	1200						
17	16	1215						
18	26	1230						
19	36	1250						
20	46	1305	1250	502	20	50	Green	
21	X56	1320	1306	750	30	40	Green	
22	8	1335	1319	1000	70	15	Fire & Smoke	
23	18	1350	1331	1100	50	30	Green	
24	28	1405						
25	38	1425						
26	48	1440						
27	X58	1450						
28	—	1510						
29	1	1530						
30	11	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-8-75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	X58	0800						
2	—	0815						
3	1	0830						
4	11	0850						
5	21	0905						
6	31	0920						
7	41	0935						
8	X51	0950						
9	X61	1005	1003	440	90	5	Good	
10	3	1020	1036	973	20	60	Fire & Smoke	
11	13	1035	1102	728	20	40	Fire & Smoke	
12	23	1055	1110	678	10	70	Green	
13	33	1110	1123	900	75	<5	Good	
14	43	1125	1135	693			Good	
15	X53	1145	1151	642	80	5	Good	

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/8/75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	X63	1200						
17	—	1215						
18	5	1230						
19	15	1250	1326	1127	80	5	Good	
20	25	1305	1337	892	20	60	Green	
21	35	1320	1344	1034	80	5	Good	
22	45	1335	1403	892	20	50	Green	
23	X55	1350	1411	920			Fire & Smoke	
24	7	1405	1429	1006	75	15	Fire & Smoke	
25	17	1425						
26	27	1440						
27	37	1450						
28	47	1510						
29	X57	1530						
30	9	1545						

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/9/75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	9	0800	0823	300	80	5	Good	
2	19	0815	0918	—	—	—	Fire & Smoke	
3	29	0830	0931	577	—	—	Fire & Smoke	
4	39	0850						
5	49	0905	0959	360	70	20	Fire & Smoke	
6	X59	0920	1022	568	—	—	Fire & Smoke	
7	2	0935	1045					
8	12	0950						
9	22	1005						
10	32	1020						
11	42	1035						
12	X52	1055						
13	X62	1110						
14	—	1125						
15	4	1145						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-9-75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	14	1200						
17	24	1215						
18	34	1230						
19	44	1250						
20	X54	1305						
21	X64	1320						
22	6	1335	1405	450				
23	16	1350		450				
24	26	1405		450				
25	36	1425		450				
26	46	1440		450				
27	X56	1450						
28	8	1510						
29	18	1530						
30	28	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-10-75 Atmospheric Pressure ____ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	28	0800	0822	130	90	<5	Good	
2	38	0815	0835	80	25		Fire & Smoke	
3	48	0830						
4	X58	0850						
5	—	0905						
6	1	0920	1005	110	40	50	Fire & Smoke	
7	11	0935	1017	80	80	10	Good	
8	21	0950	1034	170	40	50	Fire & Smoke	
9	31	1005						
10	41	1020						
11	X51	1035						
12	X61	1055						
13	3	1110						
14	13	1125						
15	23	1145	1155	130	10	75	Green	

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-10-75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	33	1200	1212	160	80	5	Good	
17	43	1215	1224	270	80	5	Good	
18	X53	1230						
19	X63	1250						
20	—	1305						
21	5	1320						
22	15	1335						
23	25	1350	1406	170	10	70	Green	
24	35	1405	1414	380	90	5	Good	
25	45	1425	1427	420	10	65	Green	
26	X55	1440						
27	7	1450						
28	17	1510						
29	27	1530						
30	37	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/11/75 Atmospheric Pressure 29.2 Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	37	0800	0840	200	15	70	green	
2	47	0815	0851	120	80	5	good	
3	x57	0830	0908	50	25	50	green	
4	9	0850						
5	19	0905						
6	29	0920						
7	39	0935						
8	49	0950						
9	x59	1005						
10	2	1020	1040	130	25	65	fire & smoke	
11	12	1035	1051	125	30	50	fire & smoke	
12	22	1055	1117	200	10	70	green	
13	32	1110						
14	42	1125						
15	X52	1145						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/11/75 Atmospheric Pressure 29.2 Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	x62	1200						
17	---	1215						
18	4	1230						
19	14	1250						
20	24	1305						
21	34	1320	1405	130	50	40	fire & smoke	
22	44	1335	1417	150	90	5	good	
23	X54	1350	1424	120	50	30	fire & smoke	
24	x64	1405						
25	6	1425						
26	16	1440						
27	26	1450						
28	36	1510						
29	46	1530						
30	x56	1545						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/12/75 Atmospheric Pressure ______ Initial: RJG

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1	x56	0800						
2	8	0815	0828	490	75	5	good	
3	18	0830						
4	28	0850						
5	38	0905						
6	48	0920	0956	420	50	30	fire & smoke	
7	x58	0935	1009	490	70	10	fire & smoke	
8	----	0950						
9	1	1005						
10	11	1020						
11	21	1035						
12	31	1055						
13	41	1110						
14	X51	1125	1225	890	50	20	fire & smoke	
15	x61	1145	1238	1300	75	5	good	

DAILY LOG OF FUME HOOD PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/15/75 Atmospheric Pressure 29.70 Initial: RGK

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1		0800						
2		0815						
3	45	0825	0825	158	70	5	fire and smoke	
4	x55	0848						
5	7	0904						
6	17	0920						
7	27	0936	0955	420	15	50	green	
8	37	0952	1002	516	30	30	green	
9	47	1008	1010	427	90	5	good	
10	x57	1024						
11	9	1040						
12	19	1056						
13	29	1112						
14	39	1128						
15	49	1200						

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/15/75 Atmospheric Pressure 29.7 Initial: RGK

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
16	x59	1216						
17	2	1232	1223	828	80	25	fire and smoke	
18	12	1248	1226	542	60	15	green	
19	22	1250	1259	797	20	40	green	
20	32	1304	1324	0	20	30	green	
21	42	1336						
22	x52	1352						
23	x62	1408	1425	240	80	10	good	
24	4	1424	1450	388	85	5	good	
25	14	1440	1456	350	60	30	fire and smoke	
26	24	1456						
27	34	1512						
28	X61	1528						
29	44	1544						
30								

DAILY LOG OF FUME HOOD PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9/16/75 Atmospheric Pressure 29.51 Initial: RGK

Push	Oven No.	Schedule Time	Push Time	Cross-Draft Velocity (fpm)	Fume Hood Capture (%)	Stack Opacity (%)	Coke Side Condition	Net Coal Charged (lbs)
1 *	X54	0745	0834	315	80	20	good	
2	X64	0808	0848	196	70	30	fire and smoke	
3	6	0824	0855	196	80	5	good	
4	16	0880						
5	26	0856						
6	36	0912						
7	46	0928						
8	X56	1044						
9	X66	1000						
10	8	1016						
11	18	1032						
12	28	1048						
13	38	1004						
14	48	1120						
15	X58	1136						
16	1	1152						

* Last push of previous shift.

APPENDIX H-i

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE

This appendix contains all field data pertaining to the scrubber operating characteristics recorded when the Clayton engineer-observer was on-site and not recording fume hood performance data. Because these data are somewhat redundant with the scrubber inlet source sampling data, and because scrubber operating parameters are quite constant from day to day, these data are not recorded for each push.

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-16-74 Atmospheric Pressure: 30.2 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	44													
2	X54													
3	X64													
4	6													
5	16	0906					41	41	84	74	72	-59.8	860	240
6	26	1004					40	41		82	80	-63.9	860	240
7	36	1016	178	108	-4.5	1.40							860	240
8	46	1026	158	106	-5.5	1.50							860	240
9	X56	1038	158	106	-5.5	1.50							860	240
10	8	1056					41	41		82	80	-59.8	860	240
11	18	1103					42	41		80	78	-59.8	860	240
12	28	1114					41	41		82	80	-62.6	860	240
13	38	1128	198	114	-5.0	1.35							860	240
14	48	1138	192	109	-5.0	1.40							860	240
15	X58													

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-16-74 Atmospheric Pressure: 30.2 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	--													
17	1	1242					41	41	84	82	80	-61.2	860	240
18	11	1252					41	41		84	80	-59.8	860	240
19	21	1303	210	110	-4.5	1.35							860	240
20	31	1314	200	109	-2.0	0.12							860	120
21	41	1328	184	106	-4.5	1.35							860	240
22	X51	1340					41	41		82	80	-59.8	860	240
23	X61	1400					41	41		84	81	-63.9	860	240
24	3	1407					41	41		85	82	-63.9	860	240
25	13	1420					41	41		84	82	-63.9	860	240
26	23	1432	210	112	-4.5	1.35							860	240
27	33	1443	210	89	-2.0	0.12							860	120
28	43	1453	210	106	-4.5	1.50							860	240
29	X53													
30	X63													

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-19-74 Atmospheric Pressure: 30.1 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1														
2														
3														
4														
5														
6	5	0935	220	160	-4.5	1.35							860	240
7	15	0948	190	160	-5.0	1.50							860	240
8	25	1000	200	160	-5.0	1.35		41	78				860	240
9	35	1010	180	100	-1.8	0.09		41					860	120
10	45	1025	140	85	-1.8	0.09		41					860	120
11	X55	1035	140	85	-1.8	0.09		41					860	120
12	7	1045					41	41		80	77	-61.2	860	240
13	17	1055					41	41		86	79	-59.8	860	240
14	27	1110					5	41		76	72	-10.9	860	120
15	37	1125	190	106	-1.8	0.10		41	79				860	120

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-19-74 Atmospheric Pressure: 30.1 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16														
17														
18														
19														
20														
21														
22														
23	X59	1420	160	110	-1.8	0.1	5	41		82	72	-12.2	860	120
24	2	1445					41	41	80	82	72	-54.4	860	240
25	12	1500					41	41		88	76	-54.4	860	240
26	22	1515	210	106	-4.5	1.35							860	240
27	32	1533	200	104	-1.8	0.12							860	120
28	42	1543	190	104	-1.8	0.12							860	120
29	X52													
30	X62													

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-21-74 Atmospheric Pressure: 30.3 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($''H_2O$)	Velocity Pressure ($''H_2O$)	Pressure Drop ($''H_2O$)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($''H_2O$)		
1	3	0815	210	120	4.5	1.35		41					860	240
2	13	0826	200	132	4.5	1.35		41					860	240
3	23	0846	180	104	4.5	1.35		41					860	240
4	33	0906	180	104	1.8	0.10		41					860	120
5	43	0927					6	41	76	79	78	6.8	860	120
6	X53	0937					6	41		80	76	6.8	860	120
7	X63	0950					6	41		79	77	6.8	860	120
8	--													
9	5	1000					41	41		84	80	61.2	860	240
10	15	1020					41	41		84	79	61.2	860	240
11	25	1033	206	140	4.5	1.35		41					860	240
12	35	1047	186	104	1.8	0.08		41					860	120
13	45	1057					6	41		82	79	6.8	860	120
14	X55	1105					6	41		82	78	6.8	860	120
15	7	1115					41	41	78	84	80	61.2	860	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-21-74 Atmospheric Pressure: 30.3 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	17	1209					6	41		82	79	6.8	860	120
17	27	1215					41	41		84	80	61.2	860	240
18	37	1225					41	41	79	86	79	61.2	860	240
19	47	1245	204	106	1.8	0.1		41					860	120
20	X 57	1306	160	104	1.8	0.1		41					860	120
21	9	1317					41	41		84	79	61.2	860	240
22	19	1327					41	41		86	82	58.5	860	240
23	29	1342					6.5	41		82	78	10.9	860	120
24	39	1401					6.5	41	79	84	78	10.9	860	120
25	49	1412	180	104	1.8	0.1		41					860	120
26	X59	1420	168	102	1.8	0.1		41					860	120
27	2	1434	225	104	4.5	1.35		41					860	240
28	12	1440	218	103	4.5	1.35		41					860	240
29	22	1458					41	41		86	82	61.2	860	240
30	32	1517					41	41		81	74	61.2	860	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-22-74 Atmospheric Pressure: 30.2 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	32	0813	170	92	1.8	0.1		41	75			10.9	860	120
2	42	0843	160	94	1.8	0.1		41					860	120
3	X52	0903	144	93	1.8	0.1		41					860	120
4	X62	0920	124	86	1.8	0.1		41					860	120
5	—													
6	4	0931	210	105	4.5	1.35		41					860	240
7	14	0948	205	105	4.5	1.35		41					860	240
8	24	1003	184	96	5.0	1.35		41					860	240
9	34	1021	187	104	1.8	0.1		41					860	120
10	44	1043	164	97	1.8	0.1		41	76				860	120
11	X54	1053					6			79	78	10.9	860	120
12	X64	1108					6			79	75	10.9	860	120
13	6	1120					41			84	78	58.5	860	240
14	16	1131					41			83	78	61.2	860	240
15	26	1142					41			84	79	61.2	860	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-22-74 Atmospheric Pressure: 30.2 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	36	1151					6	41		90	77	10.8	860	120
17	46	1242												Off
18	X56													Off
19	8													Off
20	18													Off
21	28													Off
22	38													Off
23	48													Off
24	X58													Off
25	—													
26	1													Off
27	11													Off
28	21													Off
29	31													Off
30	41													Off

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-23-74 Atmospheric Pressure: 30.1 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	41													
2	x51													
3	x61													
4	3	1033					41	41	77	88	79	58.5	860	240
5	13	1043					41	41		84	79	58.5	860	240
6	23													
7	33													
8	43													
9	x53													
10	x63													
11	—													
12	5	1055	208	114	4.5	1.35							860	240
13	15	1112	198	99	5.0	1.35							860	240
14	25	1120	201	104	4.5	1.35							860	240
15	35	1135	180	100	1.8	0.1							860	120

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-23-74 Atmospheric Pressure: 30.1 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	45	1123					6.5	41		85	80	9.5	860	120
17	x55	1130					6.5	41	77	84	79	10.9	860	120
18	7	1141					41	41		87	81	61.2	860	240
19	17	1249					41	41		85	80	58.5	860	240
20	27	1258					41	41		85	80	58.5	860	240
21	37	1322					6.5	41		81	79	9.5	860	120
22	47	1338					6.5	41		81	78	9.5	860	120
23	x57	1356					6.5	41	77	84	76	9.5	860	120
24	9	1422	300	125	4.5	1.35							860	240
25	19	1430	191	140	4.5	1.35							860	240
26	29	1443	202	130	4.5	1.35							860	240
27	39	1454	160	104	1.8	0.1							860	120
28	49	1506	160	98	1.8	0.1							860	120
29	x59	1528	125	85	1.8	0.1							860	120
30	2	1550					41	41	77	86	81	58.5	860	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-26-74 Atmospheric Pressure: 30.1 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	2	0825					41	41	75	82	80	55.8	860	240
2	12	0830					41	41		82	75	55.8	860	240
3	22	0855					41	41		80	76	58.5	860	240
4	32	0912					41	41		79	75	58.5	860	240
5	42	0930					6.5	41		75	72	10.9	860	120
6	X52	0944					6.5	41		76	73	10.9	860	120
7	X62	1002					6.5	41		77	74	10.9	860	120
8	—													
9	4	1010	190	95	4.5	1.35			75				860	240
10	14	1031	188	88	4.5	1.35							860	240
11	24	1041	196	90	4.5	1.35							860	240
12	34	1055	186	88	5.5	1.35							860	240
13	44	1110	178	87	1.8	0.08							860	120
14	X54	1120	142	88	1.8	0.08							860	120
15	X64	1130	140	88	1.8	0.08							860	120

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-26-74 Atmospheric Pressure: 30.1 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	6	1210					41	41	77	83	80	58.5	860	240
17	16	1226					41	41		85	80	58.5	860	240
18	26	1259					41	41		83	79	61.2	860	240
19	36	1310					6.5	41		80	77	9.5	860	120
20	46	1323					6.5	41		81	78	9.5	860	120
21	x56	1342					6.5	41		84	77	9.5	860	120
22	8	1350	192	102	4.5	1.35							860	240
23	18	1407	214	94	4.5	1.35							860	240
24	28	1417	196	92	4.5	1.35							860	240
25	38	1429	186	92	1.8	0.08							860	120
26	48	1444	168	90	1.8	0.08							860	120
27	x58	1505	146	88	1.8	0.08							860	120
28	—													
29	1	1515					41	41	81	91	82	57.1	860	240
30	11	1530					41	41		90	82	57.1	860	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-27-74 Atmospheric Pressure: 30.0 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	11	0819					9.5	41	77	82	78	6	860	120
2	21	0827											860	120
3	31	0914											860	120
4	41	0923											860	120
5	X51	0937											860	120
6	X61	0948											860	120
7	3	1002											860	120
8	13	1017					41	41	77	80	77	58.5	865	240
9	23	1029					42	41	78	82	80	59.8	860	240
10	33	1040					41	41	77	80	78	57.1	860	240
11	43	1048											860	120
12	X53	1058											860	120
13	X63	1124											860	120
14	—													
15	5	1134					41	41	77	82	80	58.5	860	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-27-74 Atmospheric Pressure: 30.0 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	15	1210	186	82	-5.0	1.35							865	245
17	25	1223	196	90	-4.5	1.40							865	240
18	35	1243	186	82	-4.5	1.35							865	240
19	45	1252	96	72	-2.0	0.13							865	120
20	X55	1305	184	80	-4.5	1.40							865	240
21	7	1318	204	90	-4.5	1.40							865	240
22	17	1327	210	92	-4.5	1.50							865	240
23	27	1346	212	92	-4.5	1.60							865	240
24	37	1356	154	76	-2.0	0.13							865	120
25	47	1405	150	74	-2.0	0.13							865	120
26	X57	1419	142	74	-2.0	0.13							865	120
27	9	1431					41	41	78	80	78	-57.1	865	245
28	19	1444					41	41	78	80	77	-58.5	865	245
29	29	1455					41	41	77	82	80	-57.1	865	245
30	39	1512					41	41	77	82	80	-57.1	865	245

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-28-74 Atmospheric Pressure: 30.0 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions Dry Bulb (°F)	Inlet Conditions Wet Bulb (°F)	Inlet Conditions Static Pressure ("H_2O)	Inlet Conditions Velocity Pressure ("H_2O)	Throat Conditions Pressure Drop ("H_2O)	Throat Conditions Water Pressure (psi)	Throat Conditions Water Temp. (°F)	Outlet Conditions Dry Bulb (°F)	Outlet Conditions Wet Bulb (°F)	Outlet Conditions Static Pressure ("H_2O)	Recirculated Water Flow (gpm)	Fan Motor Current (amp)
1	39	0820					6	41	72	76	74	-9.5	865	120
2	49	0829					6	41	72	74	72	-10.9	865	120
3	X59	0838					6	41	72	74	72	-10.9	865	120
4	2	0851					41	41	72	77	74	-59.8	865	240
5	12	0904					41	41	72	77	74	-59.8	865	240
6	22	0919					41	41	72	78	75	-59.8	865	240
7	32	0931					41	41	72	77	74	-57.1	865	240
8	42	0943					6	41	72	74	72	-9.5	865	120
9	X52	0952					6	41	72	74	72	-9.5	865	120
10	X62	1013					6	41	72	74	72	-9.5	865	120
11														
12	4	1020					41	41	73	76	74	-57.1	865	240
13	14	1032					41	41	72	76	73	-57.1	865	240
14	24	1051					41	41	72	76	74	-58.5	865	240
15	34	1105	210	92	-4.5	1.45							865	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-28-74 Atmospheric Pressure: 30.0 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	44	1234	179	85	-2.0	0.13							860	120
17	X54	1245	145	76	-2.0	0.13							860	120
18	X64	1254	140	78	-2.0	0.13							860	120
19	6	1306	235	98	-4.5	1.60							865	240
20	16	1319	250	98	-5.0	1.60							860	240
21	26	1326	200	86	-5.0	1.55							860	240
22	36	1336	160	90	-5.5	1.55							860	240
23	46	1345	166	82	-2.0	0.13							860	120
24	X56	1352	170	88	-2.0	0.13							860	120
25	8	1411	230	95	-4.5	1.50							860	240
26	18	1422	250	99	-4.5	1.50							860	240
27	28	1442	180	84	-4.5	1.45							860	240
28	38	1451	165	82	-2.0	0.13							860	120
29	48	1502	160	80	-2.0	0.13							860	120
30	X58	1511	156	80	-2.0	0.13							860	120

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-29-74 Atmospheric Pressure: 30.0 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	X63	1211												
17	—													
18	5													
19	15													
20	25													
21	35													
22	45													
23	X55													
24	7													
25	17													
26	27													
27	37													
28	47													
29	X57	1453					6	41		74	72	-9.5	865	120
30	9	1516					41	41	79	86	81	-58.5	865	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-30-74 Atmospheric Pressure: 30.0 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	9	0817					41	49		83	80	58.5	940	240
2	19	0825					41	49		82	80	58.5	940	240
3	29	0844					41	49	71	79	76	58.5	940	240
4	39	0856					41	49		78	73	57.1	940	240
5	49	0909					41	49	74	79	74	57.1	940	240
6	X59	0934					6.5	49		78	72	57.1	940	240
7	2	0951	232	92	4.5	1.4							940	240
8	12	1004											940	
9	22	1015											940	
10	32	1024											940	
11	42	1027											940	
12	X52	1050	160	92	5.0	1.4							940	240
13	X62	1107	178	96	6.0	1.4							940	240
14	—													
15	4	1116					41	49	76	84	81	57.1	940	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 8-30-74 Atmospheric Pressure: 30.0 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	14	1204					41	49		82	78	57.1	940	240
17	24	1215					41	49	75	82	78	57.1	940	240
18	34	1242					41	49		79	75	57.1	940	240
19	44	1253					41	49		80	74	58.5	940	240
20	X54	1301					41	49		78	74	58.5	940	240
21	X64	1313					41	49		77	73	58.5	940	240
22	6	1323	210	96	4.5	1.4							940	240
23	16	1343	218	98	5.0	1.4							940	240
24	26	1353	180	96	4.5	1.4							940	240
25	36	1401	235	102	5.0	1.35							940	240
26	46	1421	178	92	5.0	1.4							940	240
27	X56	1440	300	110	4.5	1.4							940	240
28	8	1457					41	49	74	85	81	57.1	940	240
29	18	1511					41	49	74	84	80	57.1	940	240
30	28	1524					41	49	74	83	78	57.1	940	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-3-74 Atmospheric Pressure: 30.0 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	7	0831					41	49		71	68	58.5	940	240
2	17	0843					41	49	62	74	68	58.5	940	240
3	27	0857					41	49	62	72	68	58.5	940	240
4	37	0907					41	49	62	72	68	58.5	940	240
5	47	0914					41	49	62	73	68	58.5	940	240
6	X57	0925					41	49	62	69	66	58.5	940	240
7	9	0943	192	88	5.0	1.35							940	240
8	19	0957	194	88	5.0	1.35							940	240
9	29	1007	186	92	5.0	1.35							940	240
10	39	1022	166	82	5.0	1.35							940	240
11	49	1033	154	80	5.0	1.35							940	240
12	X59	1044	136	76	5.0	1.35							940	240
13	2	1100					41	49		74	68	57.1	940	240
14	12	1114					41	49		78	72	57.1	940	240
15	22	1128					41	49		76	72	58.5	940	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-3-74 Atmospheric Pressure: 30.1 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	32	1216					41	49	62	75	68	58.5	940	240
17	42	1227					41	49	62	73	65	58.5	940	240
18	X52	1240					41	49	62	75	68	58.5	940	240
19	X62	1250					6	49	62	69	65	9.5	940	130
20	—													
21	4	1303	240	98	4.5	1.35							940	240
22	14	1314	207	92	4.5	1.35							940	240
23	24	1324	198	88	4.5	1.35							940	240
24	34	1336	186	84	5.0	1.35							940	240
25	44	1349	166	84	5.0	1.35							940	240
26	X54	1403	162	80	5.0	1.35							940	240
27	X64	1429	150	78	5.0	1.35							940	240
28	6	1453					41	49	62	74	64	58.5	940	240
29	16	1459					41	49	62	75	65	58.5	940	240
30	26	1522					41	49	62	74	66	58.5	940	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-4-74 Atmospheric Pressure: 30.2 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	26	0805					41	49	59	76	64	58.5	940	240
2	36	0812					41	49	59	74	62	58.5	940	240
3	46	0837					41	49	59	72	60	58.5	940	240
4	X56	0847					41	49	62	90	75	58.5	940	240
5	8	0922	184	84	5.0	1.35							940	240
6	18	0930	206	92	5.0	1.35							940	240
7	28	1003	184	92	5.0	1.35							940	240
8	38	1015	164	86	5.0	1.35	41	49	63			58.5	940	240
9	48	1032	164	82	5.0	1.35							940	240
10	X58	1043	168	82	5.0	1.35							940	240
11	—													
12	1	1107					41	49	63	70	64	58.5	940	240
13	11	1121					41	49	63	72	66	58.5	940	240
14	21	1142					41	49		74	66	58.5	940	240
15	31	1153					41	49		72	64	58.5	940	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-4-74 Atmospheric Pressure: 30.2 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	41	1238					41	49	64	71	65	58.5	940	240
17	x51	1248					41	49	64	69	65	58.5	940	240
18	x61	1301					43	49	64	71	64	62.6	940	240
19	3	1312	214	95	4.5	1.35							940	240
20	13	1324	192	88	4.5	1.35							940	240
21	23	1336	208	91	4.5	1.35							940	240
22	33	1345	198	89	4.5	1.35							940	240
23	43	1356	164	80	4.5	1.35							940	240
24	x53	1405	162	80	5.0	1.35							940	240
25	x63	1416	140	72	1.8	0.1							940	120
26	—													
27	5	1438					43	49	66	80	70	59.8	940	240
28	15	1453					41	49	66	77	70	59.8	940	240
29	25	1503					41	49	67	74	67	58.5	940	240
30	35	1513					41	49		76	66	58.5	940	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-5-74 Atmospheric Pressure: 30.4 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	35	0831											940	120
2	45	0841					41	49		68	64	58.5	940	240
3	X55	0847					41	49	62	82	68	58.5	940	240
4	7	0857					41	49		75	66	57.1	940	240
5	17	0922	196	94	5.0	1.35							940	240
6	27	0932	182	86	5.0	1.35							940	240
7	37	0959	170	89	5.5	1.35							940	240
8	47	1018	200	96	5.5	1.35							940	240
9	X57	1029	220	95	5.5	1.35							940	240
10	9	1040					41	49	64	78	70	61.2	940	240
11	19	1050					43	49		75	66	59.8	940	240
12	29	1103					43	49	65	75	66	58.5	940	240
13	39	1118					43	49		74	65	61.2	940	240
14	49	1128					43	49		74	65	59.8	940	240
15	X59	1138					43	49	67	77	64	58.5	940	240

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-5-74 Atmospheric Pressure: 30.4 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	2	1228	218	103	4.5	1.35							940	240
17	12	1235	218	103	5.0	1.35							940	240
18	22	1250	204	95	5.0	1.35							940	240
19	32	1259	192	95	5.0	1.35							940	240
20	42	1310	192	95	5.0	1.35							940	240
21	X52	1317	180	90	5.0	1.35							940	240
22	X62	1328	180	100	1.8	0.1							940	120
23	—													
24	4	1338					43	49	67	79	68	59.8	940	240
25	14	1351					43	49		75	70	58.5	940	240
26	24	1405					43	49	67	76	68	59.8	940	240
27	34	1429					43	49		73	68	59.8	940	240
28	44	1442					43	49	67	73	65	59.8	940	240
29	X54	1505					43	49		73	65	59.8	940	240
30	X64	1518					7	49	68	69	62	12.2	940	120

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-6-74 Atmospheric Pressure: 30.3 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)	Velocity Pressure ($"H_2O$)	Pressure Drop ($"H_2O$)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)		
1	X64	0854					7	49	63	66	66	-10.9	920	125
2	6	0921					42	49	63	66	62	-61.2	920	235
3	16	0930					45	49	63	66	63	-61.2	920	235
4	26	0940					45	49	63	69	63	-59.8	920	235
5	36	0957					45	49	63	69	63	-59.8	920	235
6	46	1011					45	50	63	69	63	-63.9	920	235
7	X56	1025					45	50	63	70	62	-61.2	920	235
8	8	1040					45	50	63	70	63	-61.2	920	235
9	18	1055					45	50	63	70	63	-61.2	920	235
10	28	1106					45	50	63	69	63	-59.8	920	235
11	38	1116					45	50	63	69	64	-61.2	920	235
12	48	1128					45	50	63	69	63	-61.2	920	235
13	X58	1141					45	50	63	69	63	-61.2	920	235
14	—													
15	1	1152	250	122	-4.5	1.70							920	235

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-6-74 Atmospheric Pressure: 30.3 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	11	1203	220	132	-4.5	1.65							900	235
17	21	1212	204	112	-4.5	1.60							920	235
18	31	1253	202	108	-5.0	1.50							920	235
19	41	1302	196	106	-5.5	1.50							920	235
20	X51	1320	180	96	-6.0	1.50							920	235
21	X61	1332	152	86	-6.0	1.50							920	235
22	3	1345	235	120	-4.5	1.70							920	235
23	13	1354	220	117	-4.5	1.55							920	235
24	23	1405	204	114	-4.5	1.45							920	235
25	33	1416	186	110	-4.5	1.45							920	235
26	43	1425	182	98	-5.0	1.35							920	235
27	X53	1437					45	50	64	69	63	-61.2	920	235
28	X63	1449					45	50	64	69	63	-59.8	920	235
29	—													
30	5	1510					45	50	64	69	64	-61.2	920	235

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-8-75 Atmospheric Pressure: 29.56 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	44	0825					40	54	47	46	45	57	870	240
2	X54	0836					40	54	47	48	46	57	880	
3	X64	0847					40	54	47	52	46	57	880	
4	6	0859	147	106									880	
5	16	0913	157	109			40	54				57	880	
6	26	0930	146	96									880	
7	36	0950	184	112									880	
8	46	1007	144	102									880	
9	X56	1030	142	98									880	
10	8	1045					40	54	47	57	51	60	880	
11	18	1107					40	54	47	58	51	57	880	
12	28	1123					40		47	59	52	57	880	
13	38	1140					41	54	47	62	54	60	880	
14														
15														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-8-75 Atmospheric Pressure: 29.47 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	48	1219					40	54	47	52	46	57	880	240
17	X58	1233					40	54		48	46	57	880	240
18	1	1246	180	98									880	240
19	11	1312	188	118									880	240
20	21	1323	142	80									880	240
21	31	1340	152	110			40	54				57	880	240
22	41	1352	152	90				54					880	240
23	X51	1414	142	102			40	54				57	880	240
24	X61	1435	112	96				54					880	240
25	3	1507					40	54		58	50	57	880	240
26	13	1520					40	54		63	56	57	880	240
27														
28														
29														
30														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-9-75 Atmospheric Pressure: 29.66 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	X58	0820					55	54	40	48	44	60	870	240
2	1	0830						54	40	54	44	63	870	
3	11	0900	140	94					40				870	
4	21	0918	134	94					40				870	
5	31	0931	140	94					40				870	
6	41	0944					55	54	40	52	44	63	870	
7	X51	1001	108	68					40				870	
8	X61	1017	102	66				54	40				870	
9	3	1024					55	54	40	52	46	63	870	
10	13	1046					55		40	54	48	63	870	
11	23	1057					55		40	58	48	63	870	
12	33	1115					55		40	56	48	63	870	
13	43								40				870	
14														
15														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-10-75 Atmospheric Pressure: 29.51 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	X63	0820					61	54	40	48	42	63	860	240
2	5	0830					61	54		58	52	63	860	240
3	15	0900	152	84			61						860	240
4	25	0912					61	54		56	48	63	860	240
5	35	0923	156	112									860	240
6	45	0942	152	88									860	240
7	X55	0957					55	54		54	46	60	860	240
8	7	1012					55	54		62	52	60	860	240
9	17	1025					55	54		58	52	60	860	240
10	27	1036					55	54		58	52	63	860	240
11	37	1051					55	54		68	58	65	860	240
12	47	1106					55	54		100	78	65	860	240
13	X57	1120					55	54		62	50	60	860	240
14														
15														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 1-10-75 Atmospheric Pressure: 29.37 Initial: MRD

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)	Velocity Pressure ($"H_2O$)	Pressure Drop ($"H_2O$)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)		
16	9	1215	152	84									860	240
17	19	1226	150	86									860	240
18	29	1310	145	86			55	54	40			63	860	240
19	39	1321	184				55	54				63	860	240
20	49	1335	128				55	54				63	860	240
21	x59	1352					55	54		52	48	63	860	240
22	2	1403					55	54		62	50	63	860	240
23	12	1419					55	54		78	56	63	860	240
24	22	1446					55	54		58	52	63	860	240
25	32	1501					55	54		58	52	60	860	240
26	42	1516					55	54		68	56	60	860	240
27														
28														
29														
30														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-3-75 Atmospheric Pressure: 29.5 Initial: JBS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	48	0820												
2	X58	0830												
3	---													
4	1	0855												
5	11	0958												
6	21	1012	190		-4.8	1.3	41	39		72	62	-46.2	750	125-215
7	31	1022	190		-4.8	1.2	40	40		62	56	-51.7		
8	41	1040	350		-4.8	1.3	39	39		72	70	-50.3		
9	X51	1047	150		-4.8	1.3	40	39		74	72	51.7		
10	X61	1104	210		5.2	1.2	40	39		72	70	53.0		
11	3	1114	280		4.3	1.3	42	38		78	76	50.3		
12	13	1124	400		5.5	1.2	42	38		82	76	51.7		
13	23	1204	300		4.2	1.2	42	38		78	72	50.3		
14	33	1213	180		4.2	1.2	40	38		74	72	53.0		
15	43	1224	225		5.5	1.2	40	38		78	72	46.2		

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-4-75 Atmospheric Pressure: ______ Initial: JBS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	X57	0830	160		4.5	1.2	41	39		70	64	50.3	750	125 - 215
2	9	0904												
3	19	0914												
4	29	0926			4.8	1.3	43	39		92	82	55.8	750	
5	39	0940			4.8	1.3	42	39		88	81	54.4	750	
6	49	0955	180											
7	X59	1018	320											
8	2	1049												
9	12	1104												
10	22	1116												
11	32	1125												
12	42	1140												
13	X52	1152												
14	X62	1207												
15														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-4-75 Atmospheric Pressure: _____ Initial: JBS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	4	1300												
17	14	1310												
18	24	1317												
19	34	1330												
20	44	1346												
21	X54	1359												
22	X64	1411												
23	6	1425												
24	16	1434												
25	26	1444												
26	36	1458												
27	46	1508												
28	X56	1519												
29	8	1531	260		-4.3	1.3	44	38		80	78	51.7		
30	18	1537												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-5-75 Atmospheric Pressure: 29.1 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)	Velocity Pressure ($"H_2O$)	Pressure Drop ($"H_2O$)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)		
1	18	0828	210		-4.3	1.50	44	40		84	82	53	760	125-215
2	28	0844	195		-4.1	1.45	45	38		82	80	50.3	760	
3	38	0857	225		-4.3	1.50	45	38		82	80	50.3	760	
4	48	0914	220		-4.3	1.50	45	39		78	78	50.3	760	
5	X58	0930												
6	----													
7	1	0944												
8	11	0950												
9	21	1005												
10	31	1025												
11	41	1035												
12	X51	1045												
13	X61	1100												
14	3	1111												
15	13	1122												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-6-75 Atmospheric Pressure: 29.1 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)	Velocity Pressure ($"H_2O$)	Pressure Drop ($"H_2O$)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)		
1	27	0810	220		-5.4	1.45	42	38		80	76	53.0	800	215
2	37	0820	215		-4.9	1.50	43	38		70	68	50.3	800	215
3	47	0830	285		-5.5	1.45	43	38		80	76	49.0	780	215
4	X57	0950												
5	9	1004												
6	19	1027												
7	29	1049												
8	39	1100												
9	49	1114												
10	X59	1127												
11	2	1141												
12	12	1150												
13	22	1201												
14	32	1215												
15	42	1230												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-9-75 Atmospheric Pressure: 29.67 Initial: GJS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	16	0817			4.5	1.2	40-44	38-40		160-80			750	115-215
2	26	0830	100		5.5	1.3	42	40		84	80	54.4	750	
3	36	0838												
4	46	0853												
5	X56	0923												
6	8	0942												
7	18	0957												
8	28	1013												
9	38	1025	100		5.4	1.2	45	40		75	72	52	750	
10	48	1038												
11	X58	1047												
12	----													
13	1	1058												
14	11	1115												
15	21	1128												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-9-75 Atmospheric Pressure: 29.67 Initial: GJS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	31	1139												215
17	41	1153												
18	X51	1206												
19	X61	1314												
20	3	1322												
21	13	1335	110		4.6	1.3	46	40		74	74	53	760	
22	23	1345	220		5.0	1.3	46	40		80	80	53	760	
23	33	1357												
24	43	1403												
25	X53	1422												
26	X63	1432												
27	--													
28	5	1447												
29	15	1502												
30	25	1530	210		4.8	1.2	40	40		68	70	46	760	

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-10-75 Atmospheric Pressure: 29.85 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	45	0855	260		5.5	1.3	43	38		72	70	53	770	220
2	47	1024	300		5.8	1.5	45	38		78	75	53	770	220
3	9	1051	420		5.5	1.6	45	38		84	82	51.7	770	220
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-10-75 Atmospheric Pressure: 29.85 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)	Velocity Pressure ($"H_2O$)	Pressure Drop ($"H_2O$)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)		
16	32	1305	340		5.8	1.4	45	38		82	80	53	770	220
17	42	1315	850		6.0	1.7	45	38		94	92	53	770	220
18	X52	1330	390		5.5	1.4	45			90	88	45	770	220
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-11-75 Atmospheric Pressure: 29.15 Initial: GJS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	X54	0816												
2	X64	0828												
3	6	0843												
4	16	0905	400		5.0	1.3	40	40		84	84	47.6		
5	26	0938												
6	36	1000												
7	46	1014												
8	X56	1025												
9	8	1050												
10	18	1102												
11	28	1111												
12	38	1122												
13	48	1135												
14	X58	1202												
15														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-11-75 Atmospheric Pressure: 29.15 Initial: GJS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	1	1250												
17	11	1302												
18	21	1310												
19	31	1338	160		5.1	1.3	36	40		76	76	42.2		
20	41	1347												
21	X51	1408												
22	X61	1423												
23	3	1434	210		4.7	1.3	40	40		82	82	45		
24	13	1445												
25	23	1455												
26	33	1508												
27	43	1516												
28	X53	1528												
29	X63	1538												
30	—													

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-12-75 Atmospheric Pressure: ______ Initial: GJS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	---												770	215
2	5	0819											770	215
3	15	0841											770	215
4	25	0850											770	215
5	35	0932											770	215
6	45	0944											770	215
7	X55	1000											770	215
8	7	1014			5.0	1.3	40			80	80		770	215
9	17	1037											770	215
10	27	1046											770	215
11	37	1101												215
12	47	1114												
13	X57	1126												
14	9	1214												
15	19	1226												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-12-75 Atmospheric Pressure: 29.35 Initial: GJS

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	29	1235												
17	39	1245												
18	49	1256			5.3	1.3	40	40		79	79	44.9		
19	X59	1315			5.1	1.3	40	40		74	74	44.9		
20	2	1330												
21	12	1342												
22	22	1350												
23	32	1410												
24	42	1418												
25	X52	1434												
26	X62	1445												
27	--													
28	4	1452												
29	14	1510												
30	24	1521												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-24-75 Atmospheric Pressure: ______ Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	33	1211												
17	45	1224												
18	X53	1230												
19	X63	1248												
20	----													
21	5	1320												
22	15	1336												
23	25	1352												
24	35	1408												
25	45	1424												
26	X55	1440	220		-4.9	1.45	43	40		84	82	49.0	800	210
27	7	1456												
28	17	1512												
29	27	1528												
30	37	1544												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-25-75 Atmospheric Pressure: ______ Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	37	0820											800	215
2	47	0828												
3	X57	0840												
4	9	0912												
5	19	0946												
6	29	0955												
7	39	1005												
8	49	1018												
9	X59	1029												
10	2	1040												
11	12	1053												
12	22	1105												
13	32	1120												
14	42	1133	210		-4.0	1.4	42	40		86	84	-49.0	800	215
15	X52	1146												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-26-75 Atmospheric Pressure: 29.74 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	X56	0815											780	210
2	8	0832	700		4.8	1.4	40	42		80	78	-54	780	
3	18	0846	950		4.8	1.2	40	42		100	98	-54	780	
4	28	0900												
5	38	0915												
6	48	0925												
7	X58	0937												
8	----													
9	1	1016												
10	11	1022												
11	21	1039												
12	31	1049												
13	41	1102												
14	X51	1125												
15	X61	1139												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-27-75 Atmospheric Pressure: 29.70 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	7	0825											790	215
2	17	0846	900		4.05	1.1	40	40		100	98	29.9	790	
3	27	0910	260		4.0	0.7	40	40		90	88	32.6	790	
4	37	0919	260		5.0	1.1	41	40		88	86	49	790	
5	47	0930	300		5.0	1.2	41	40		90	88	40.8	790	
6	X57	0950												
7	9	1010	1050		5.0	1.5	42	40		110	108	54.4	790	
8	19	1020												
9	29	1040												
10	39	1056												
11	49	1108												
12	X59	1120												
13	2	1135												
14	12	1147												
15	22	1158												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-27-75 Atmospheric Pressure: 29.70 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	32	1205												
17	42	1215												
18	X52	1225												
19	X62	1238												
20	---													
21	4	1325												
22	14	1340												
23	24	1405												
24	34	1424												
25	44	1435	250		5.0	1.2	40	40		87	86	54.8		
26	X54	1445												
27	X64	1455												
28	6	1511												
29	16	1528												
30	26	1538												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 6-30-75 Atmospheric Pressure: ______ Initial: TAL

			Inlet Conditions				Throat Conditions			Outlet Conditions				
Push	Oven No.	Push Time	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Recirculated Water Flow (gpm)	Fan Motor Current (amp)
1	34	0810	690		5.5	1.4	38	40		96	94	49.0	780	220
2	44	0826	270		5.0	1.4	38	40		83	81	54.4	780	
3	X54	0837												
4	X64	0854												
5	6	0905												
6	16	0920												
7	26	0943												
8	36	0954												
9	46	1003												
10	X56	1011												
11	---													
12	8	1027												
13	18	1045												
14	28	1056												
15	38	1141												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-2-75 Atmospheric Pressure: 29.75 Initial: TAL

			Inlet Conditions				Throat Conditions			Outlet Conditions				
Push	Oven No.	Push Time	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Recirculated Water Flow (gpm)	Fan Motor Current (amp)
1	---												780	220
2	4	0822												
3	14	0834												
4	24	0921												
5	34	0928												
6	44	0946												
7	X 54	0954	180		5.0	1.3	38	40		82	81	49.0	780	
8	X 64	1005												
9	6	1014												
10	16	1030												
11	26	1037												
12	36	1100												
13	46	1110												
14	X 56	1123												
15	8	1139												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-2-75 Atmospheric Pressure: 29.75 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	18	1301	330		5.3	1.2	38	40		90	89	54.4		
17	28	1306	650		5.3	1.5	38	40		98	97	54.4		
18	38	1313	240		5.3	1.2	38	40		89	88	54.4		
19	48	1327												
20	X58	1335												
21	---													
22	1	1345												
23	11	1355												
24	21	1415												
25	31	1442												
26	41	1455												
27	X51	1505												
28	X61	1516												
29	3	1535												
30	13	1545												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-8-75 Atmospheric Pressure: ______ Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	X54	1245												
17	X64	1252												
18	6	1305												
19	16	1320												
20	26	1335												
21	36	1345												
22	46	1403												
23	X56	1421												
24	8	1440												
25	18	1449												
26	28	1501	210		-5.3	1.2	40	55		85	83	-54.4	840	215
27	38	1510	230		-5.3	1.3	40	55		84	82	-54.4	840	215
28	48	1521	260		-5.3	1.3	40	55		84	82	-54.4	840	215
29	X58	1530												
30	—													

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE

Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-9-75 Atmospheric Pressure: 29.40 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	—													
2	1	0825	260		-4.8	1.1	40	55		82	80	-54.4	820	210
3	11	0834	770		-4.9	1.3	40	55		99	97	-54.4	820	210
4	21	0845												
5	31	0910												
6	41	0935												
7	X51	0950												
8	X61	1015												
9	3	1028												
10	13	1038												
11	23	1046												
12	33	1057												
13	43	1105												
14	X53	1112												
15	X63	1125												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-9-75 Atmospheric Pressure: 29.40 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	—													
17	5	1207												
18	15	1220												
19	25	1232												
20	35	1250												
21	45	1302												
22	X55	1344												
23	7	1357												
24	17	1408												
25	27	1420												
26	37	1428												
27	47	1435												
28	X57	1500												
29	9	1513	320		-5.5	1.5	40	55		88	86	-54.4	820	210
30	19	1518	260		-5.5	1.2	40	55		84	82	-54.4	820	210

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-10-75 Atmospheric Pressure: 29.34 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1	19	0811	230		-5.5	1.2	40	55		78	76	54.4	880	210
2	29	0841												
3	39	0858												
4	49	0910												
5	X59	0925												
6	2	0940												
7	12	0953												
8	22	1017												
9	32	1024												
10	42	1045												
11	X52	1057												
12	X62	1107												
13	—													
14	4	1120												
15	14	1130												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-10-75 Atmospheric Pressure: 29.34 Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	24	1207												
17	34	1221												
18	44	1230												
19	X54	1242												
20	X64	1252												
21	6	1300												
22	16	1325												
23	26	1337												
24	36	1358												
25	46	1410												
26	X56	1424												
27	8	1436												
28	18	1452												
29	28	1505												
30	38	1518	220		-5.0	1.2	38	55		85	83	-54.4	880	210

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-14-75 Atmospheric Pressure: ______ Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26	X64	1431	170		-3.5	1.25	38	46	68	76	72	-54.4	880	[illegible]
27	6	1445	260		-3.8	1.25	38	48	68	74	72	-54.4	880	215
28	16	1502												
29	26	1514												
30	36	1526												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-15-75 Atmospheric Pressure: ______ Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	X51	1300												
17	X61	1306												
18	3	1325												
19	13	1333												
20	23	1345												
21	33	1404												
22	43	1409												
23	X53	1425	190		-5.0	1.2	40	55		82	80	-54.4	890	215
24	X63	1440												
25	—													
26	5	1455												
27	15	1507												
28	25	1530												
29	35	1535												
30	45	1547												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-16-75 Atmospheric Pressure: ______ Initial: TAL

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	12	1225												
17	22	1233												
18	32	1317												
19	42	1330												
20	X52	1340												
21	X62	1348												
22	—													
23	4	1403	250		-5.2	1.4	40	55		86	84	-54.4	890	215
24	14	1422	290		-5.0	1.5	40	55		84	82	-54.4	890	215
25	24	1432	260		-5.0	1.4	40	55		82	80	-54.4	890	215
26	34	1440												
27	44	1449												
28	X54	1502												
29	X64	1511												
30	6	1535												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-17-75 Atmospheric Pressure: ______ Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)	Velocity Pressure ($"H_2O$)	Pressure Drop ($"H_2O$)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ($"H_2O$)		
16	21	1200												
17	31	1216												
18	41	1232												
19	X51	1248												
20	X61	1304												
21	3	1320												
22	13	1336												
23	23	1352												
24	33	1408												
25	43	1424	220		-5.0	1.4	38	56	76	78	76	-54	880	215
26	X53	1441	230		-4.5	1.35	38	58	76	78	76	-56	880	215
27	X63	1454												
28	—													
29	5	1514												
30	15	1528												

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-18-75 Atmospheric Pressure: ______ Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16														
17														
18														
19														
20	22	1304	230		-5.0	1.3	38	56	68.0	78	76	-65	880	215
21	32	1315	220		-5.0	1.3	37	56	68.0	78	77	-65	880	215
22														
23														
24														
25														
26														
27														
28														
29														
30														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-21-75 **Atmospheric Pressure:** ______ **Initial:** RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16														
17														
18	X58	1225	180		-4.3	1.25	38	55	68	79	76	-65	880	215
19	—													
20	1	1236	280		-5.0	1.45	38	56	68	79	76	-67	880	215
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 7-22-75 Atmospheric Pressure: ____ Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
1														
2														
3														
4														
5														
6														
7	15	0932	460		-4.6	1.3	38	48	69	77	76	-30	880	215
8	25	0940	280		-4.8	1.4	38	48	69	77	76	-30	880	215
9														
10														
11														
12														
13														
14														
15														

DAILY LOG OF SCRUBBER SYSTEM PERFORMANCE
Ford Motor Company * Rouge Plant * Dearborn, Michigan

Date: 9-3-75 Atmospheric Pressure: 29.4 Initial: RJP

Push	Oven No.	Push Time	Inlet Conditions				Throat Conditions			Outlet Conditions			Recirculated Water Flow (gpm)	Fan Motor Current (amp)
			Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)	Velocity Pressure ("H_2O)	Pressure Drop ("H_2O)	Water Pressure (psi)	Water Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)	Static Pressure ("H_2O)		
16	36	1208			-3.5	1.1	41	60	60			57.1	890	215
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 1 **Sampling Date:** 6-24-75 - 6-25-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0943	1	3	2510	355	40	38,050
1036	31	-	2420	-	-	36,100
1052	41	1	2500	130	0	35,450
1103	X51	1	2550	485	0	35,200
1117	X61	1	2440	230	0	(35,700)
1132	3	3	2440	80	75	34,800
1146	13	3	2420	115	60	35,350
1158	23	3	2410	200	60	36,350
1330	X53	1	2430	310	0	(35,700)
1340	X63	3	2390	280	50	35,550
1426	35	3	2460	360	60	35,750
1438	45	1	2470	400	20	35,000
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 1 **Sampling Date:** 6-24-75 - 6-25-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
6-25 1005	39	2	2460	120	40	32,550
1018	49	3	2420	120	40	34,500
1029	X59	1	2420	100	10	34,350
1040	2	3	2440	150	60	34,700
1253	4	3	2360	620	60	34,950
1310	24	3	2300	190	60	34,700
1332	34	3	2400	60	40	34,450
1342	44	2	2490	170	5	34,200
1353	X54	2	2440	220	10	34,400
1403	X64	3	2380	180	40	34,450
1417	6	3	2510	200	30	34,350
1428	16	3	2400	260	60	34,050
TEST AVERAGE		2.3		230	35	35,050

Averages

Inlet Dry Bulb (°F)	215	Outlet Wet Bulb (°F)	83
Inlet Stat. Pres. ("H_2O)	-4.5	Outlet Stat. Pres. ("H_2O)	-49
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	800
Water Pres. (psi)	40	Fan Motor Current (AMP)	210
Outlet Dry Bulb (°F)	85	Gross Coking Time (min.)	985

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 1 Sampling Date: 6-24-75 - 6-25-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0943	1	3		355	40	38,050
1036	31	-		-	-	36,100
1052	41	1		130	0	35,450
1103	X51	1		485	0	35,200
1117	X61	1		230	0	(35,700)
1132	3	3		80	75	34,800
1146	13	3		115	60	35,350
1158	23	3		200	60	36,350
1330	X53	1		310	0	(35,700)
1340	X63	3		280	50	35,550
1426	35	3		360	60	35,750
6-25 0946	19	3	2420	160	60	35,250
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) ____
Inlet Stat. Pres. ("H_2O) ____
Throat Pres. Drop ("H_2O) ____
Water Pres. (psi) ____
Outlet Dry Bulb (°F) ____

Outlet Wet Bulb (°F) ____
Outlet Stat. Pres. ("H_2O) ____
Water Flow (GPM) ____
Fan Motor Current (AMP) ____
Gross Coking Time (min.) ____

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 1 **Sampling Date:** 6-24-75 - 6-25-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1005	39	2		120	40	32,550
1018	49	3		120	40	34,500
1029	X59	1		100	10	34,350
1040	2	3		150	60	34,700
1253	4	3		620	60	34,950
1310	24	3		190	60	34,700
1332	34	3		60	40	34,450
1342	44	2		170	5	34,200
1353	X54	2		220	10	34,400
1403	X64	3		180	40	34,450
1417	6	3		200	30	34,350
1428	16	3		260	60	34,050
TEST AVERAGE		2.4		220	35	34,050

Averages

Inlet Dry Bulb (°F)	215	Outlet Wet Bulb (°F)	83
Inlet Stat. Pres. ("H_2O)	-4.5	Outlet Stat. Pres. ("H_2O)	-49
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	800
Water Pres. (psi)	40	Fan Motor Current (AMP)	210
Outlet Dry Bulb (°F)	85	Gross Coking Time (min.)	985

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA
Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 2 **Sampling Date:** 6-26-75 - 6-27-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0925	48	3	2260	310	30	31,050
1016	1	2	2300	270	30	34,550
1039	21	1	2430	250	5	34,900
1049	31	3	2480	310	40	34,750
1102	41	1	2350	400	5	32,050
1125	X51	1	2490	220	0	32,800
1139	X61	-	2420	90	-	33,000
1255	23	-	2330		-	35,750
1310	33	3	2400	480	40	35,450
1332	43	1	2320	330	0	35,600
1337	X53	1	2450	220	0	35,700
1345	X63	1	2390	270	0	33,850
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 2 **Sampling Date:** 6-26-75 - 6-27-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1408	15	3	2360	280	20	31,650
1438	35	3	2380	250	10	34,650
1458	45	3	2440	170	60	34,850
1504	X55	1	2420	350	10	33,850
6-27 1056	39	1	No data	240	0	34,650
1108	49	3	No data	200	20	34,250
1135	2	3	No data	240	30	34,800
1158	22	3	No data	270	30	33,500
1325	4	3	No data	260	20	33,800
1340	14	1	No data	350	10	34,350
1405	24	2	No data	170	10	34,900
1424	34	3	No data	320	20	33,300
TEST AVERAGE		2.1		270	20	34,100

Averages

Inlet Dry Bulb (°F)	583	Outlet Wet Bulb (°F)	91
Inlet Stat. Pres. ("H_2O)	-4.7	Outlet Stat. Pres. ("H_2O)	-46
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	785
Water Pres. (psi)	40	Fan Motor Current (AMP)	210
Outlet Dry Bulb (°F)	93	Gross Coking Time (min.)	1005

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 2 **Sampling Date:** 6-26-75 - 6-27-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0925	48	3		310	30	31,050
1016	1	2		270	30	34,550
1039	21	1		250	5	34,900
1049	31	3		310	40	34,750
1102	41	1		400	5	32,050
1125	X51	1		220	0	32,800
1139	X61	-		90	-	33,000
1255	23	-		-	-	35,750
1310	33	3		480	40	35,450
1332	43	1		330	0	35,600
1337	X53	1		220	0	35,700
1345	X63	1		270	0	33,850
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F)		Outlet Wet Bulb (°F)	
Inlet Stat. Pres. ("H_2O)		Outlet Stat. Pres. ("H_2O)	
Throat Pres. Drop ("H_2O)		Water Flow (GPM)	
Water Pres. (psi)		Fan Motor Current (AMP)	
Outlet Dry Bulb (°F)		Gross Coking Time (min.)	

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 2 **Sampling Date:** 6-26-75 - 6-27-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1408	15	3		280	20	31,650
1438	35	3		250	10	34,650
1458	45	3		170	60	34,850
1504	X55	1		350	10	33,850
6-27 1040	29	3		170	40	34,800
1108	49	3		200	20	34,250
1120	X59	1		190	0	34,750
1158	22	3		270	30	33,500
1325	4	3		260	20	33,800
1340	14	1		350	10	34,350
1405	24	2		170	10	34,900
1424	34	3		320	20	33,300
TEST AVERAGE		2.1		270	20	34,100

Averages

Inlet Dry Bulb (°F)	583	Outlet Wet Bulb (°F)	91
Inlet Stat. Pres. ("H_2O)	-4.7	Outlet Stat. Pres. ("H_2O)	-46
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	785
Water Pres. (psi)	40	Fan Motor Current (AMP)	210
Outlet Dry Bulb (°F)	93	Gross Coking Time (min.)	1005

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 3 **Sampling Date:** 6-30-75, 7-1-75 and 7-2-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0854	X64	2		200	5	39,100
0905	6	3	2340	220	20	35,550
0920	16	2	2480	210	10	29,750
0943	26	2	2460	300	10	35,350
0954	36	2	2400	240	5	(33,850)
1003	46	2	2480	270	10	34,250
1011	X56	1	2440	230	10	32,900
1027	8	3	2260	340	40	32,850
1045	18	3	2270	270	20	33,000
1056	28	3	2240	310	50	(33,850)
1220	11	1	2300	370	0	31,150
1247	21	3	2360	280	30	33,300
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) ____
Inlet Stat. Pres. ("H_2O) ____
Throat Pres. Drop ("H_2O) ____
Water Pres. (psi) ____
Outlet Dry Bulb (°F) ____

Outlet Wet Bulb (°F) ____
Outlet Stat. Pres. ("H_2O) ____
Water Flow (GPM) ____
Fan Motor Current (AMP) ____
Gross Coking Time (min.) ____

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 3 **Sampling Date:** 6-30-75, 7-1-75 and 7-2-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1330	41	3	2230	120	50	34,850
1350	X51	1	2420	150	0	34,400
1402	X61	1	2380	230	0	34,800
1415	3	3	2340	280	60	33,800
1423	13	2	2380	230	30	33,800
1448	23	3	2340	80	30	33,450
1458	33	3	2380	540	60	(33,850)
7-1 0851	X53	1		150	0	36,100
0935	15	-	2260	-	-	35,850
7-2 0921	24	3	2360	60	50	35,050
0928	34	3	2400	100	40	34,250
0946	44	3	2360	150	30	34,900
TEST AVERAGE		2.3		230	25	34,250

Averages

Inlet Dry Bulb (°F)	393	Outlet Wet Bulb (°F)	88
Inlet Stat. Pres. ("H_2O)	-5.2	Outlet Stat. Pres. ("H_2O)	-52.6
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	770
Water Pres. (psi)	40	Fan Motor Current (AMP)	220
Outlet Dry Bulb (°F)	90	Gross Coking Time (min.)	982

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 3 **Sampling Date:** 6-30-75, 7-1-75 and 7-2-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0854	X64	2		200	5	39,100
0905	6	3		220	20	35,550
0920	16	2		210	10	29,750
0943	26	2		300	10	34,350
0954	36	2		240	5	(33,850)
1003	46	2		270	10	34,250
1011	X56	1		230	10	32,900
1027	8	3		340	40	32,850
1045	18	3		270	20	33,000
1056	28	3		310	50	(32,850)
1220	11	1		370	0	31,150
1247	21	3		280	30	33,300
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F)	_____	Outlet Wet Bulb (°F)	_____
Inlet Stat. Pres. ("H_2O)	_____	Outlet Stat. Pres. ("H_2O)	_____
Throat Pres. Drop ("H_2O)	_____	Water Flow (GPM)	_____
Water Pres. (psi)	_____	Fan Motor Current (AMP)	_____
Outlet Dry Bulb (°F)	_____	Gross Coking Time (min.)	_____

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 3 **Sampling Date:** 6-30-75, 7-1-75 and 7-2-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1330	41	3		120	50	34,850
1350	X51	1		150	0	34,400
1402	X61	1		230	0	35,800
1415	3	3		280	60	33,800
1423	13	2		230	30	33,800
1458	33	3		540	60	(33,850)
1513	43	3	2340	360	20	(33,850)
7-1 0851	X53	1		150	0	36,100
0935	15	-		-	-	35,850
7-2 0921	24	3		60	50	35,050
0928	34	3		100	40	35,250
0946	44	3		150	30	34,900
TEST AVERAGE		2.3		240	25	34,250

Averages

Inlet Dry Bulb (°F)	393	Outlet Wet Bulb (°F)	88
Inlet Stat. Pres. ("H_2O)	-5.2	Outlet Stat. Pres. ("H_2O)	-52.6
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	770
Water Pres. (psi)	40	Fan Motor Current (AMP)	220
Outlet Dry Bulb (°F)	90	Gross Coking Time (min.)	982

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SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 4 **Sampling Date:** 7-2-75 - 7-3-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1327	48	1	2260	260	10	33,300
1335	X58	1	2400	350	0	(34,800)
1345	1	-	2360	-	-	34,800
1355	11	1	2390	270	0	35,000
1415	21	3	2300	460	50	34,850
1442	31	3	2260	360	40	34,950
1455	41	3	2410	320	20	35,100
1505	X51	1	2430	280	5	35,600
1535	3	3	2360	320	40	35,150
1545	13	3	2410	280	20	34,950
7-3 0838	13	1		150	0	(36,050)
0903	33	2	2350	230	20	36,200
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 4 **Sampling Date:** 7-2-75 - 7-3-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0939	X53	3	2480	260	20	35,500
0954	X63	1	2420	320	0	35,550
1006	5	1	2460	170	0	34,600
1027	15	3	2340	320	60	34,700
TEST AVERAGE		2.0		290	20	35,050

Averages

Inlet Dry Bulb (°F) 350
Inlet Stat. Pres. ("H_2O) -5.2
Throat Pres. Drop ("H_2O) 38
Water Pres. (psi) 40
Outlet Dry Bulb (°F) 90

Outlet Wet Bulb (°F) 89
Outlet Stat. Pres. ("H_2O) -53.0
Water Flow (GPM) 780
Fan Motor Current (AMP) 220
Gross Coking Time (min.) 997

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 5 **Sampling Date:** 7-8-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0928	12	-	2300	-	-	34,550
1017	X52	1	2420	170	0	34,900
1033	X62	1	2380	240	0	34,350
1043	4	1	2340	170	0	32,000
1056	14	3	2160	260	20	34,250
1141	24	1	2400	240	0	34,000
1213	44	1	2360	-	0	33,450
1245	X54	1	2420	180	0	33,600
1305	6	2	2400	220	10	34,800
1320	16	2	2340	360	10	33,200
1335	26	1	2400	300	0	33,900
1345	36	1	2400	350	5	(33,600)
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 5 **Sampling Date:** 7-8-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1403	46	1	2420	240	5	34,350
1421	X56	2	2410	290	0	28,050
1440	8	3	2190	250	30	32,850
1449	18	1	2400	300	0	35,050
TEST AVERAGE		1.5		260	5	33,550

Averages

Inlet Dry Bulb (°F)	233	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	840
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	1019

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 6 **Sampling Date:** 7-10-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0940	2	1	2360	230	5	33,500
0953	12	3	2280	280	30	35,000
1017	22	1	2320	270	5	36,650
1045	42	-	2350	-	-	34,150
1057	X52	1	2380	190	0	34,150
1107	X62	1	2380	210	0	34,500
1120	4	1	2400	300	5	33,750
1242	X54	1	2400	240	10	33,850
1252	X64	2	2380	360	20	34,350
1337	26	2	2380	670	30	34,650
1358	36	2	2360	570	20	33,800
1410	46	2	2470	520	10	33,500
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F)
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM)
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 6 **Sampling Date:** 7-10-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1424	X56	1	2380	730	0	35,300
1436	8	3	2250	850	60	35,700
1452	18	3	2340	910	40	35,150
1505	28	3	2340	580	30	35,550
TEST AVERAGE		1.8		460	20	34,600

Averages

Inlet Dry Bulb (°F)	225	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-5.2	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	39	Water Flow (GPM)	880
Water Pres. (psi)	55	Fan Motor Current (AMP)	210
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	987

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 7 **Sampling Date:** 7-14-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0840	37	1		160	10	32,500
0923	X57	1	2460	300	10	32,850
0932	9	3	2300	510	60	34,450
0950	19	2	2440	490	20	32,350
1022	29	1	2510	270	0	31,850
1033	39	2	2420	450	30	33,000
1058	X59	3	2420	460	60	33,400
1110	2	1	2440	350	5	31,950
1245	X52	3	2400	550	50	33,100
1255	X62	2	2440	900	40	(32,800)
1318	4	1	2330	350	5	(32,800)
1338	14	1	2410	390	5	(32,800)
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 7 **Sampling Date:** 7-14-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1347	24	1	2400	540	0	33,150
1358	34	1	2390	1100	5	32,700
1410	44	2	2390	330	40	30,400
1424	X54	2	2440	380	20	33,050
TEST AVERAGE		1.7		470	20	32,700

Averages

Inlet Dry Bulb (°F)	215	Outlet Wet Bulb (°F)	72
Inlet Stat. Pres. ("H_2O)	-3.6	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	880
Water Pres. (psi)	47	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	75	Gross Coking Time (min.)	990

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 8 **Sampling Date:** 7-15-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0830	46	1		100	0	33,300
0847	X56	1		250	0	32,950
0920	8	2	2430	120	20	33,700
0929	18	1	2420	150	0	33,500
0958	38	1	2440	210	0	33,750
1054	1	1	2360	220	0	34,650
1104	11	3	2200	190	40	33,300
1125	21	1	2500	190	0	32,250
1140	31	1	2440	220	10	34,250
1156	41	3	2320	610	30	32,450
1300	X51	-	2410	-	-	33,750
1325	3	2	2300	270	10	33,050
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) ____
Inlet Stat. Pres. ("H_2O) ____
Throat Pres. Drop ("H_2O) ____
Water Pres. (psi) ____
Outlet Dry Bulb (°F) ____

Outlet Wet Bulb (°F) ____
Outlet Stat. Pres. ("H_2O) ____
Water Flow (GPM) ____
Fan Motor Current (AMP) ____
Gross Coking Time (min.) ____

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 8 **Sampling Date:** 7-15-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1333	13	1	2360	510	5	35,050
1345	23	1	2440	240	5	34,350
1404	33	1	2450	270	0	32,150
1409	43	1	2410	580	0	34,250
TEST AVERAGE		1.4		280	10	33,550

Averages

Inlet Dry Bulb (°F)	190	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-5.0	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	998

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 9 **Sampling Date:** 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0824	45	1		150	0	(35,200)
0840	X55	1		170	10	(34,300)
0853	7	3		140	40	35,450
0934	17	1	2420	270	0	33,400
0941	27	2	2390	160	10	35,700
0952	37	1	2380	120	0	35,650
1006	47	2	2490	170	10	33,800
1035	X57	1	2430	420	5	(34,300)
1050	9	3	2240	260	40	35,850
1109	19	1	2420	150	0	34,450
1123	29	1	2460	320	0	33,500
1137	39	1	2360	370	0	34,200
TEST AVERAGE						

Averages

Inlet Dry Bulb (°F) _____
Inlet Stat. Pres. ("H_2O) _____
Throat Pres. Drop ("H_2O) _____
Water Pres. (psi) _____
Outlet Dry Bulb (°F) _____
Outlet Wet Bulb (°F) _____
Outlet Stat. Pres. ("H_2O) _____
Water Flow (GPM) _____
Fan Motor Current (AMP) _____
Gross Coking Time (min.) _____

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 5

Test No.: 9 **Sampling Date:** 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1203	X59	1	2380	490	0	35,550
1217	2	1	2400	360	5	35,400
1340	X52	1	2370	450	0	32,150
1348	X62	1	2380	430	0	33,200
TEST AVERAGE		1.4		280	5	34,500

Averages

Inlet Dry Bulb (°F)	267	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	999

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 1 **Sampling Date:** 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1502	17	2	2370	480	30	35,150
1522	27	2	2500	980	25	34,700
1616	37	-	2410	-	-	(35,350)
1625	47	2	2460	440	20	(35,250)
TEST AVERAGE		2		630	25	35,100

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	989

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 2 **Sampling Date:** 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1004	9	1	2510	690	10	35,350
1027	19	1	2460	515	5	35,500
1049	29	3	2510	530	40	36,050
TEST AVERAGE		1.7		580	20	34,650

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	1033

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 3 **Sampling Date:** 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1127	X59	2	2440	660	20	35,150
1141	2	1	2460	450	15	35,050
1150	12	2	2320	830	30	34,950
TEST AVERAGE		1.7		650	20	35,050

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	1024

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 4 **Sampling Date:** 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1338	14	1	2480	480	10	30,800
1355	34	1	2500	650	5	34,600
1410	44	3	2420	790	45	34,700
TEST AVERAGE		1.7		640	20	33,350

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	999

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 5 **Sampling Date:** 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1458	6	1	2350	930	0	35,500
1510	16	3	2440	1105	80	35,500
1522	26	1	2440	660	5	34,700
TEST AVERAGE		1.7		900	30	35,250

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	1009

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 6 **Sampling Date:** 6-9-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1058	1	3	2460	230	20	35,000
1115	11	1	2480	250	5	35,050
1128	21	3	2450	170	10	33,200
TEST AVERAGE		2.3		220	10	34,400

Averages

Inlet Dry Bulb (°F)	148	Outlet Wet Bulb (°F)	75
Inlet Stat. Pres. ("H_2O)	-5.0	Outlet Stat. Pres. ("H_2O)	-52
Throat Pres. Drop ("H_2O)	44	Water Flow (GPM)	760
Water Pres. (psi)	40	Fan Motor Current (AMP)	165
Outlet Dry Bulb (°F)	76	Gross Coking Time (min.)	995

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 7 **Sampling Date:** 6-9-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1335	13	-		-	-	35,050
1345	23	-		-	-	35,050
1403	43	-		-	-	34,950
TEST AVERAGE		-		-	-	35,000

Averages

Inlet Dry Bulb (°F)	148	Outlet Wet Bulb (°F)	75
Inlet Stat. Pres. ("H_2O)	-5.0	Outlet Stat. Pres. ("H_2O)	-52
Throat Pres. Drop ("H_2O)	44	Water Flow (GPM)	760
Water Pres. (psi)	40	Fan Motor Current (AMP)	165
Outlet Dry Bulb (°F)	76	Gross Coking Time (min.)	999

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 7 Sampling Date: 6-9-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1322	3	-		-	-	34,900
1345	23	-		-	-	35,050
1403	43	-		-	-	34,950
TEST AVERAGE		-		-	-	34,950

Averages

Inlet Dry Bulb (°F)	148	Outlet Wet Bulb (°F)	75
Inlet Stat. Pres. ("H_2O)	-5.0	Outlet Stat. Pres. ("H_2O)	-52
Throat Pres. Drop ("H_2O)	44	Water Flow (GPM)	760
Water Pres. (psi)	40	Fan Motor Current (AMP)	165
Outlet Dry Bulb (°F)	76	Gross Coking Time (min.)	998

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 8 **Sampling Date:** 6-9-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1432	X63	-		-	-	34,950
1447	5	1	2400	540	20	33,650
1502	15	3	2400	480	20	35,300
TEST AVERAGE		2.0		510	20	34,650

Averages

Inlet Dry Bulb (°F) 148
Inlet Stat. Pres. ("H_2O) -5.0
Throat Pres. Drop ("H_2O) 44
Water Pres. (psi) 40
Outlet Dry Bulb (°F) 76

Outlet Wet Bulb (°F) 75
Outlet Stat. Pres. ("H_2O) -52
Water Flow (GPM) 760
Fan Motor Current (AMP) 165
Gross Coking Time (min.) 996

Clayton Environmental Consultants, Inc.

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 8

Test No.: 9 **Sampling Date:** 6-10-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0933	X55	3	2480	350	20	34,900
0950	17	3	2390	410	20	35,550
1014	37	3	2420	370	30	35,600
TEST AVERAGE		3		380	25	35,350

Averages

Inlet Dry Bulb (°F)	427	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	5.7	Outlet Stat. Pres. ("H_2O)	-51
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	770
Water Pres. (psi)	38	Fan Motor Current (AMP)	220
Outlet Dry Bulb (°F)	83	Gross Coking Time (min.)	1003

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Sodium Hydroxide

Test No.: 1 **Sampling Date:** 6-3-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1640	29	1	2510	380	15	(34,650)
1653	39	3	2440	420	20	(34,650)
1710	49	3	2460	545	55	(34,650)
TEST AVERAGE		2.3		450	30	34,650

Averages

Inlet Dry Bulb (°F)	248	Outlet Wet Bulb (°F)	70
Inlet Stat. Pres. ("H_2O)	-4.8	Outlet Stat. Pres. ("H_2O)	-50.4
Throat Pres. Drop ("H_2O)	41	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	74	Gross Coking Time (min.)	-

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Sodium Hydroxide

Test No.: 2 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0904	9	1	2500	300	20	(35,250)
0914	19	1	2520	320	15	(35,250)
0926	29	2	2510	360	30	(35,250)
TEST AVERAGE		1.3		330	22	35,250

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	1008

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Sodium Hydroxide

Test No.: 3 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1049	2	2	2470	430	25	36,550
1104	12	3	2420	510	25	36,650
1116	22	1	2470	480	10	35,950
TEST AVERAGE		2.0		470	20	36,400

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	1021

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Sodium Hydroxide

Test No.: 4 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1300	4	1	2470	400	10	35,800
1310	14	1	2470	250	0	36,050
1317	24	1	2490	245	25	35,100
TEST AVERAGE		1		300	10	35,650

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	1011

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Sodium Hydroxide

Test No.: 5 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1458	36	3	2440	265	30	34,700
1508	46	3	2370	290	25	36,100
1519	X56	3	2420	355	20	31,750
TEST AVERAGE		3		300	25	34,200

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	982

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Sodium Hydroxide

Test No.: 6 **Sampling Date:** 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1226	43	3	2420	525	40	35,600
1240	X53	3	2400	465	30	35,350
1250	X63	3	2360	480	40	35,450
TEST AVERAGE		3		490	35	35,450

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	968

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 1 **Sampling Date:** 6-10-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1430	34	1	2470	210	10	36,700
TEST AVERAGE		1		210	10	36,700

Averages

Inlet Dry Bulb (°F)	427	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-5.7	Outlet Stat. Pres. ("H_2O)	-51
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	770
Water Pres. (psi)	38	Fan Motor Current (AMP)	220
Outlet Dry Bulb (°F)	83	Gross Coking Time (min.)	940

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 2 **Sampling Date:** 6-10-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1458	44	3	2340	270	40	(35,150)
TEST AVERAGE		3		270	40	35,150

Averages

Inlet Dry Bulb (°F)	427	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-5.7	Outlet Stat. Pres. ("H_2O)	-51
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	770
Water Pres. (psi)	38	Fan Motor Current (AMP)	220
Outlet Dry Bulb (°F)	83	Gross Coking Time (min.)	963

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 3 **Sampling Date:** 6-10-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1510	X54	1	2420	320	10	35,100
TEST AVERAGE		1		320	10	35,100

Averages

Inlet Dry Bulb (°F)	427	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-5.7	Outlet Stat. Pres. ("H_2O)	51
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	770
Water Pres. (psi)	38	Fan Motor Current (AMP)	220
Outlet Dry Bulb (°F)	83	Gross Coking Time (min.)	965

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 4 **Sampling Date:** 6-10-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1639	6	1	2320	300	10	(35,150)
TEST AVERAGE		1		300	10	35,150

Averages

Inlet Dry Bulb (°F)	427	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-5.7	Outlet Stat. Pres. ("H_2O)	-51
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	770
Water Pres. (psi)	38	Fan Motor Current (AMP)	220
Outlet Dry Bulb (°F)	83	Gross Coking Time (min.)	-

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 5 Sampling Date: 6-10-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1657	16	3	2390	250	40	(35,150)
TEST AVERAGE		3		250	40	35,150

Averages

Inlet Dry Bulb (°F)	427	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-5.7	Outlet Stat. Pres. ("H_2O)	51
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	770
Water Pres. (psi)	38	Fan Motor Current (AMP)	220
Outlet Dry Bulb (°F)	83	Gross Coking Time (min.)	-

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 6 **Sampling Date:** 6 11-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1455	23	1	2380	630	10	35,700
TEST AVERAGE		1		630	10	35,700

Averages

Inlet Dry Bulb (°F)	257	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-4.9	Outlet Stat. Pres. ("H_2O)	-45
Throat Pres. Drop ("H_2O)	39	Water Flow (GPM)	-
Water Pres. (psi)	40	Fan Motor Current (AMP)	-
Outlet Dry Bulb (°F)	81	Gross Coking Time (min.)	988

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 7 **Sampling Date:** 6-11-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1516	43	2	2340	650	40	36,050
TEST AVERAGE		2		650	40	36,050

Averages

Inlet Dry Bulb (°F)	257	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-4.9	Outlet Stat. Pres. ("H_2O)	-45
Throat Pres. Drop ("H_2O)	39	Water Flow (GPM)	-
Water Pres. (psi)	40	Fan Motor Current (AMP)	-
Outlet Dry Bulb (°F)	81	Gross Coking Time (min.)	979

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 8 **Sampling Date:** 6-11-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1528	X53	1	2450	630	10	36,150
TEST AVERAGE		1		630	10	36,150

Averages

Inlet Dry Bulb (°F)	257	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-4.9	Outlet Stat. Pres. ("H_2O)	-45
Throat Pres. Drop ("H_2O)	39	Water Flow (GPM)	-
Water Pres. (psi)	40	Fan Motor Current (AMP)	-
Outlet Dry Bulb (°F)	81	Gross Coking Time (min.)	985

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 9 **Sampling Date:** 6-11-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1538	X63	1	2380	610	10	35,300
TEST AVERAGE		1		610	10	35,300

Averages

Inlet Dry Bulb (°F)	257	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-4.9	Outlet Stat. Pres. ("H_2O)	-45
Throat Pres. Drop ("H_2O)	39	Water Flow (GPM)	-
Water Pres. (psi)	40	Fan Motor Current (AMP)	-
Outlet Dry Bulb (°F)	81	Gross Coking Time (min.)	983

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 10 **Sampling Date:** 7-18-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1220	49	1	2420	950	0	34,500
TEST AVERAGE		1		950	0	34,500

Averages

Inlet Dry Bulb (°F)	225	Outlet Wet Bulb (°F)	76
Inlet Stat. Pres. ("H_2O)	-5.0	Outlet Stat. Pres. ("H_2O)	-65
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	880
Water Pres. (psi)	56	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	1013

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 11 **Sampling Date:** 7-18-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1227	X59	1	2380	510	5	34,650
TEST AVERAGE		1		510	5	34,650

Averages

Inlet Dry Bulb (°F)	225	Outlet Wet Bulb (°F)	76
Inlet Stat. Pres. ("H_2O)	-5.0	Outlet Stat. Pres. ("H_2O)	-65
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	880
Water Pres. (psi)	56	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	973

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 12 Sampling Date: 7-18-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1239	2	2	2310	430	15	34,400
TEST AVERAGE		2		430	15	34,400

Averages

Inlet Dry Bulb (°F)	225	Outlet Wet Bulb (°F)	76
Inlet Stat. Pres. ("H_2O)	-5.0	Outlet Stat. Pres. ("H_2O)	-65
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	880
Water Pres. (psi)	56	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	972

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 7

Test No.: 13 Sampling Date: 7-18-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1250	12	3	2400	520	80	34,700
TEST AVERAGE		3		520	80	34,700

Averages

Inlet Dry Bulb (°F)	225	Outlet Wet Bulb (°F)	76
Inlet Stat. Pres. ("H_2O)	-5.0	Outlet Stat. Pres. ("H_2O)	-65
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	880
Water Pres. (psi)	56	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	973

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 1 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1049	2	2	2470	430	25	36,550
TEST AVERAGE		2		430	25	36,550

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	1024

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 2 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1104	12	3	2420	510	25	36,650
TEST AVERAGE		3		510	25	36,650

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	1023

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 4 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1300	4	1	2470	400	10	35,800
TEST AVERAGE		1		400	10	35,800

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	1048

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 5 Sampling Date: 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1310	14	1	2470	250	0	36,050
TEST AVERAGE		1		250	0	36,050

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	993

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 7 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1519	X56	3	2420	355	20	31,750
TEST AVERAGE		3		355	20	31,750

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	981

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 8 **Sampling Date:** 6-4-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1531	8	-		-	-	35,100
TEST AVERAGE		-		-	-	35,100

Averages

Inlet Dry Bulb (°F)	230	Outlet Wet Bulb (°F)	77
Inlet Stat. Pres. ("H_2O)	-4.6	Outlet Stat. Pres. ("H_2O)	-53.0
Throat Pres. Drop ("H_2O)	42	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	981

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 10 **Sampling Date:** 6-12-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1636	X54	1	2400	650	0	(35,050)
TEST AVERAGE		1		650	0	35,050

Averages

Inlet Dry Bulb (°F)	-	Outlet Wet Bulb (°F)	78
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-44.9
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	770
Water Pres. (psi)	40	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	-

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 11 **Sampling Date:** 6-12-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1651	X64	1	2390	620	0	(35,050)
TEST AVERAGE		1		620	0	35,050

Averages

Inlet Dry Bulb (°F)	-	Outlet Wet Bulb (°F)	78
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-44.9
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	770
Water Pres. (psi)	40	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	-

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 12 **Sampling Date:** 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0952	37	1	2380	120	0	35,650
TEST AVERAGE		1		120	0	35,650

Averages

Inlet Dry Bulb (°F)	267	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	1002

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 13 **Sampling Date:** 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1006	47	2	2490	170	10	33,800
TEST AVERAGE		2		170	10	33,800

Averages

Inlet Dry Bulb (°F)	267	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	994

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 14 **Sampling Date:** 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1035	X57	1	2430	420	5	(34,300)
TEST AVERAGE		1		420	5	34,300

Averages

Inlet Dry Bulb (°F)	267	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	1015

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 15 **Sampling Date:** 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1123	29	1	2460	320	0	33,500
TEST AVERAGE		1		320	0	33,500

Averages

Inlet Dry Bulb (°F)	267	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	983

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 16 Sampling Date: 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1137	39	1	2360	370	0	34,200
TEST AVERAGE		1		370	0	34,200

Averages

Inlet Dry Bulb (°F)	267	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	989

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 17 **Sampling Date:** 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1203	X59	1	2380	490	0	35,550
TEST AVERAGE		1		490	0	35,550

Averages

Inlet Dry Bulb (°F)	267	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	987

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Grab Sample

Test No.: 18 **Sampling Date:** 7-16-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1217	2	1	2400	360	5	35,400
TEST AVERAGE		1		360	5	35,400

Averages

Inlet Dry Bulb (°F)	267	Outlet Wet Bulb (°F)	82
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-54.4
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	890
Water Pres. (psi)	55	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	84	Gross Coking Time (min.)	991

Clayton Environmental Consultants, Inc.

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 1 Sampling Date: 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1226	43	3		525	40	35,600
TEST AVERAGE		3		525	40	35,600

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	967

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 2 Sampling Date: 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1240	X53	3		465	30	35,350
TEST AVERAGE		3		465	30	35,350

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	968

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 3 Sampling Date: 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1250	X63	3		480	40	35,450
TEST AVERAGE		3		480	40	35,450

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	968

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 4 **Sampling Date:** 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1452	7	1	2430	690	10	35,350
TEST AVERAGE		1		690	10	35,350

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	979

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 5 **Sampling Date:** 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1522	27	2		980	25	34,700
TEST AVERAGE		2		980	25	34,700

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	979

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 6 Sampling Date: 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1615	37	-		-	-	(35,250)
TEST AVERAGE		-		-	-	35,250

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	1017

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 7 **Sampling Date:** 6-5-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1625	47	2		440	20	(35,250)
TEST AVERAGE		2		440	20	35,250

Averages

Inlet Dry Bulb (°F)	212	Outlet Wet Bulb (°F)	80
Inlet Stat. Pres. ("H_2O)	-4.2	Outlet Stat. Pres. ("H_2O)	-51.0
Throat Pres. Drop ("H_2O)	45	Water Flow (GPM)	760
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	82	Gross Coking Time (min.)	-

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 8 Sampling Date: 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1027	19	1		515	5	35,500
1049	29	3		530	40	36,050
TEST AVERAGE		2.0		520	20	35,800

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	1033

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 9 **Sampling Date:** 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1127	X59	2		660	20	35,150
1141	2	1		450	15	35,050
1150	12	2		830	30	34,950
TEST AVERAGE		1.7		650	20	35,050

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	1024

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 10 Sampling Date: 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1338	14	1		480	10	30,800
1355	34	1		650	5	34,600
1410	44	3		790	45	34,700
TEST AVERAGE		1.7		650	20	33,350

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	999

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 11 **Sampling Date:** 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1420	X54	3	2420	810	50	35,250
1430	X64	3	2400	685	60	35,350
1458	6	1		930	0	35,500
TEST AVERAGE		2.3		810	35	35,350

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	995

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Activated Charcoal

Test No.: 12 Sampling Date: 6-6-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1510	16	3		1105	80	35,500
1522	26	1		660	5	34,700
1542	36	3	2420	645	85	34,400
TEST AVERAGE		2.3		800	55	34,850

Averages

Inlet Dry Bulb (°F)	240	Outlet Wet Bulb (°F)	73
Inlet Stat. Pres. ("H_2O)	-5.3	Outlet Stat. Pres. ("H_2O)	-50.8
Throat Pres. Drop ("H_2O)	43	Water Flow (GPM)	793
Water Pres. (psi)	38	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	77	Gross Coking Time (min.)	1012

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 11

Test No.: 1 **Sampling Date:** 6-3-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1040	41	-		-	-	34,000
1047	X51	-		-	-	33,800
1104	X61	-		-	-	33,950
TEST AVERAGE		-		-	-	33,900

Averages

Inlet Dry Bulb (°F)	248	Outlet Wet Bulb (°F)	70
Inlet Stat. Pres. ("H_2O)	-4.8	Outlet Stat. Pres. ("H_2O)	-50.4
Throat Pres. Drop ("H_2O)	41	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	74	Gross Coking Time (min.)	987

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: EPA Method 11

Test No.: 2 **Sampling Date:** 6-3-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1114	3	-		-	-	34,850
1124	13	-		-	-	(34,650)
1204	23	-		-	-	(34,650)
TEST AVERAGE		-		-	-	34,700

Averages

Inlet Dry Bulb (°F)	248	Outlet Wet Bulb (°F)	70
Inlet Stat. Pres. ("H_2O)	-4.8	Outlet Stat. Pres. ("H_2O)	-50.4
Throat Pres. Drop ("H_2O)	41	Water Flow (GPM)	750
Water Pres. (psi)	39	Fan Motor Current (AMP)	170
Outlet Dry Bulb (°F)	74	Gross Coking Time (min.)	989

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Ethanol

Test No.: 1 Sampling Date: 7-17-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0824	16	1		210	5	(34,600)
0840	26	2		440	35	(34,600)
0850	36	1		400	5	35,250
TEST AVERAGE		1.3		350	15	34,800

Averages

Inlet Dry Bulb (°F)	225	Outlet Wet Bulb (°F)	76
Inlet Stat. Pres. ("H_2O)	-4.8	Outlet Stat. Pres. ("H_2O)	-55
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	880
Water Pres. (psi)	57	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	969

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Ethanol

Test No.: 2 **Sampling Date:** 7-17-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1441	X53	-		-	-	34,400
1454	X63	1	2360	260	10	33,250
1514	5	1	2340	700	5	35,700
TEST AVERAGE		1		480	10	34,450

Averages

Inlet Dry Bulb (°F)	225	Outlet Wet Bulb (°F)	76
Inlet Stat. Pres. ("H_2O)	-4.8	Outlet Stat. Pres. ("H_2O)	-55
Throat Pres. Drop ("H_2O)	38	Water Flow (GPM)	880
Water Pres. (psi)	57	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	978

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Cyclohexane

Test No.: 1 **Sampling Date:** 6-11-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1347	41	3	2360	340	40	36,650
1408	X51	1	2420	650	20	36,500
1423	X61	3	2380	450	40	36,550
TEST AVERAGE		2.3		480	35	36,550

Averages

Inlet Dry Bulb (°F)	247	Outlet Wet Bulb (°F)	81
Inlet Stat. Pres. ("H_2O)	-4.9	Outlet Stat. Pres. ("H_2O)	-45
Throat Pres. Drop ("H_2O)	39	Water Flow (GPM)	-
Water Pres. (psi)	40	Fan Motor Current (AMP)	-
Outlet Dry Bulb (°F)	81	Gross Coking Time (min.)	999

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Cyclohexane

Test No.: 2 Sampling Date: 6-12-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1037	17	3	2300	520	20	33,800
1101	37	3	2360	580	40	37,200
1114	47	3	2380	810	20	36,900
TEST AVERAGE		3		640	25	35,950

Averages

Inlet Dry Bulb (°F)	-	Outlet Wet Bulb (°F)	78
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-44.9
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	770
Water Pres. (psi)	40	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	1006

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Cyclohexane

Test No.: 3 **Sampling Date:** 6-12-75

Sampling Location: Scrubber Inlet & Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1510	14	1	2400	650	20	35,200
1521	24	1	2360	620	20	35,050
1623	44	3	2300	620	60	(35,050)
TEST AVERAGE		1.7		630	35	35,100

Averages

Inlet Dry Bulb (°F)	-	Outlet Wet Bulb (°F)	78
Inlet Stat. Pres. ("H_2O)	-5.1	Outlet Stat. Pres. ("H_2O)	-44.9
Throat Pres. Drop ("H_2O)	40	Water Flow (GPM)	770
Water Pres. (psi)	40	Fan Motor Current (AMP)	215
Outlet Dry Bulb (°F)	78	Gross Coking Time (min.)	983

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 1-A,1-B,1-C Sampling Date: 9-4-75 and 9-5-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1-A						
0900	3	3		210	60	-
0940	13	2		Calm	40	-
0951	23	1		430	20	-
1-B						
1425	29	3		410	65	-
1502	49	3		180	60	-
1513	X59	1		220	-	-
1-C						
0904	32	2		220	5	-
0916	42	2		120	5	-
0930	X52	1		150	0	-
TEST AVERAGE		2.0		220	30	-

Averages

Inlet Dry Bulb (°F) _____
Inlet Stat. Pres. ("H_2O) _____
Throat Pres. Drop ("H_2O) _____
Water Pres. (psi) _____
Outlet Dry Bulb (°F) _____

Outlet Wet Bulb (°F) _____
Outlet Stat. Pres. ("H_2O) _____
Water Flow (GPM) _____
Fan Motor Current (AMP) _____
Gross Coking Time (min.) _____

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 1 Sampling Date: 9-4-75 and 9-5-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0900	3	3		210	60	-
0940	13	2		Calm	40	-
0951	23	1		430	20	-
1425	29	3		410	65	-
1502	49	3		180	60	-
1513	X59	1		220	-	-
9-5						
0904	32	2		220	5	-
0916	42	2		120	5	-
0930	X52	1		150	0	-
TEST AVERAGE		2.0		220	30	-

Averages

Inlet Dry Bulb (°F)		Outlet Wet Bulb (°F)	
Inlet Stat. Pres. ("H_2O)		Outlet Stat. Pres. ("H_2O)	
Throat Pres. Drop ("H_2O)		Water Flow (GPM)	
Water Pres. (psi)		Fan Motor Current (AMP)	
Outlet Dry Bulb (°F)		Gross Coking Time (min.)	

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 2-A,2-B,2-C Sampling Date: 9-5-75 and 9-8-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
2-A						
1251	46	3		500	50	-
1319	8	2		1000	15	-
1331	18	3		1100	30	-
2-B						
1036	3	2		975	60	-
1102	13	2		730	40	-
1151	X53	1		640	5	-
2-C						
1337	25	3		890	60	-
1403	45	3		890	50	-
1431	7	2		1005	15	-
TEST AVERAGE		2.3		860	35	-

Averages

Inlet Dry Bulb (°F) ____
Inlet Stat. Pres. ("H_2O) ____
Throat Pres. Drop ("H_2O) ____
Water Pres. (psi) ____
Outlet Dry Bulb (°F) ____

Outlet Wet Bulb (°F) ____
Outlet Stat. Pres. ("H_2O) ____
Water Flow (GPM) ____
Fan Motor Current (AMP) ____
Gross Coking Time (min.) ____

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 2 Sampling Date: 9-5-75 and 9-6-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1251	46	3		500	50	-
1319	8	2		1000	15	-
1331	18	3		1100	30	-
9-6						
1036	3	2		975	60	-
1102	13	2		730	40	-
1151	X53	1		640	5	-
1337	25	3		890	60	-
1403	45	3		890	50	-
1431	7	2		1005	15	-
TEST AVERAGE		2.3		860	35	-

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 3-A,3-B,3-C Sampling Date: 9-9-75 and 9-10-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
3-A						
0959	49	2		360	20	-
0822	28	1		130	0	-
0835	38	2		80	-	-
3-B						
1005	1	2		110	50	-
1017	11	1		80	10	-
1034	21	2		170	50	-
3-C						
1155	23	3		130	75	-
1212	33	1		160	5	-
1225	43	1		270	5	-
TEST AVERAGE		1.7		170	25	-

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 3 **Sampling Date:** 9-9-75 and 9-10-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0959	49	2		360	20	-
9-10						
0822	28	1		130	0	-
0835	38	2		80	-	-
1005	1	2		110	50	-
1017	11	1		80	10	-
1034	21	2		170	50	-
1155	23	3		130	75	-
1212	33	1		160	5	-
1225	43	1		270	5	-
TEST AVERAGE		1.7		170	25	-

Averages

Inlet Dry Bulb (°F)		Outlet Wet Bulb (°F)	
Inlet Stat. Pres. ("H_2O)		Outlet Stat. Pres. ("H_2O)	
Throat Pres. Drop ("H_2O)		Water Flow (GPM)	
Water Pres. (psi)		Fan Motor Current (AMP)	
Outlet Dry Bulb (°F)		Gross Coking Time (min.)	

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 4-A,4-B,4-C **Sampling Date:** 9-10-75 and 9-11-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
4-A						
1406	25	3		170	70	-
1414	35	1		380	5	-
1427	45	3		420	65	-
4-B						
0841	37	3		200	70	-
0851	47	1		120	5	-
0909	X57	3		50	50	-
4-C						
1041	2	2		130	65	-
1052	12	2		125	50	-
1117	22	3		200	70	-
TEST AVERAGE		2.3		200	50	-

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 4 Sampling Date: 9-10-75 and 9-11-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1406	25	3		170	70	-
1414	35	1		380	5	-
1427	45	3		420	65	-
9-11						
0841	37	3		200	70	-
0851	47	1		120	5	-
0909	X57	3		50	50	-
1041	2	2		130	65	-
1052	12	2		125	50	-
1117	22	3		200	70	-
TEST AVERAGE		2.3		200	50	-

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 5 Sampling Date: 9-11-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1406	34	2		130	40	-
1418	44	1		150	5	-
1425	X54	2		120	30	-
TEST AVERAGE		1.7		130	25	-

Averages

Inlet Dry Bulb (°F)		Outlet Wet Bulb (°F)	
Inlet Stat. Pres. ("H_2O)		Outlet Stat. Pres. ("H_2O)	
Throat Pres. Drop ("H_2O)		Water Flow (GPM)	
Water Pres. (psi)		Fan Motor Current (AMP)	
Outlet Dry Bulb (°F)		Gross Coking Time (min.)	

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 5 Sampling Date: 9-11-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1406	34	2		130	40	-
1418	44	1		150	5	-
1425	X54	2		120	30	-
TEST AVERAGE		1.7		130	25	-

Averages

Inlet Dry Bulb (°F) ____
Inlet Stat. Pres. ("H_2O) ____
Throat Pres. Drop ("H_2O) ____
Water Pres. (psi) ____
Outlet Dry Bulb (°F) ____

Outlet Wet Bulb (°F) ____
Outlet Stat. Pres. ("H_2O) ____
Water Flow (GPM) ____
Fan Motor Current (AMP) ____
Gross Coking Time (min.) ____

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 6-A,6-B,6-C Sampling Date: 9-12-75 and 9-15-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
6-A						
0828	8	1		490	5	-
0956	48	2		420	30	-
1009	X58	2		490	10	-
6-B						
1225	X51	2		890	20	-
1238	X61	1		1300	5	-
0825	45	2		160	5	-
6-C						
0955	27	3		420	50	-
1002	37	3		515	30	-
1010	47	1		425	5	-
TEST AVERAGE		1.9		570	20	-

Averages

Inlet Dry Bulb (°F)		Outlet Wet Bulb (°F)	
Inlet Stat. Pres. ("H_2O)		Outlet Stat. Pres. ("H_2O)	
Throat Pres. Drop ("H_2O)		Water Flow (GPM)	
Water Pres. (psi)		Fan Motor Current (AMP)	
Outlet Dry Bulb (°F)		Gross Coking Time (min.)	

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 6 **Sampling Date:** 9-12-75 and 9-15-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
0956	48	2		420	30	-
1009	X58	2		490	10	-
1032	-	-		-	-	-
1225	X51	2		890	20	-
1238	X61	1		1300	5	-
9-15						
0825	45	2		160	5	-
0955	27	3		420	50	-
1002	37	3		515	30	-
1010	47	1		425	5	-
TEST AVERAGE		2.0		580	20	-

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Daarborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 7-A,7-B,7-C **Sampling Date:** 9-15-75 and 9-16-75

Sampling Location: Scrubber Inlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
7-A						
1223	2	2		830	25	-
1259	22	3		795	40	-
1322	32	3		0	30	-
7-B						
1425	X62	1		240	10	-
1450	4	1		390	5	-
1456	14	2		350	30	-
7-C						
0834	X54	1		315	20	-
0848	X64	2		195	30	-
0855	6	1		195	5	-
TEST AVERAGE		1.8		370	20	-

Averages

Inlet Dry Bulb (°F)		Outlet Wet Bulb (°F)	
Inlet Stat. Pres. ("H_2O)		Outlet Stat. Pres. ("H_2O)	
Throat Pres. Drop ("H_2O)		Water Flow (GPM)	
Water Pres. (psi)		Fan Motor Current (AMP)	
Outlet Dry Bulb (°F)		Gross Coking Time (min.)	

Clayton Environmental Consultants, Inc.

SUMMARY OF PROCESS AND CONTROL SYSTEM DATA

Ford Motor Company
Rouge Plant - Coke Battery
Dearborn, Michigan

Sampling Method: Andersen Impactor

Test No.: 7 Sampling Date: 9-15-75 and 9-16-75

Sampling Location: Scrubber Outlet

Push Time	Oven Number	Greenness (Engineering Observer's Estimate)	Coke Oven Flue Temp. (°F)	Cross Draft Velocity (fpm)	Stack Gas Opacity (Percent)	Net Coal Charged (lbs)
1223	2	2		830	25	-
1259	22	3		795	40	-
1322	32	3		0	30	-
1425	X62	1		240	10	-
1450	4	1		390	5	-
1456	14	2		350	30	-
9-16						
0834	X54	1		315	20	-
0848	X64	2		195	30	-
0855	6	1		195	5	-
TEST AVERAGE		1.8		370	20	-

Averages

Inlet Dry Bulb (°F) ______
Inlet Stat. Pres. ("H_2O) ______
Throat Pres. Drop ("H_2O) ______
Water Pres. (psi) ______
Outlet Dry Bulb (°F) ______

Outlet Wet Bulb (°F) ______
Outlet Stat. Pres. ("H_2O) ______
Water Flow (GPM) ______
Fan Motor Current (AMP) ______
Gross Coking Time (min.) ______